Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

g84
p.2

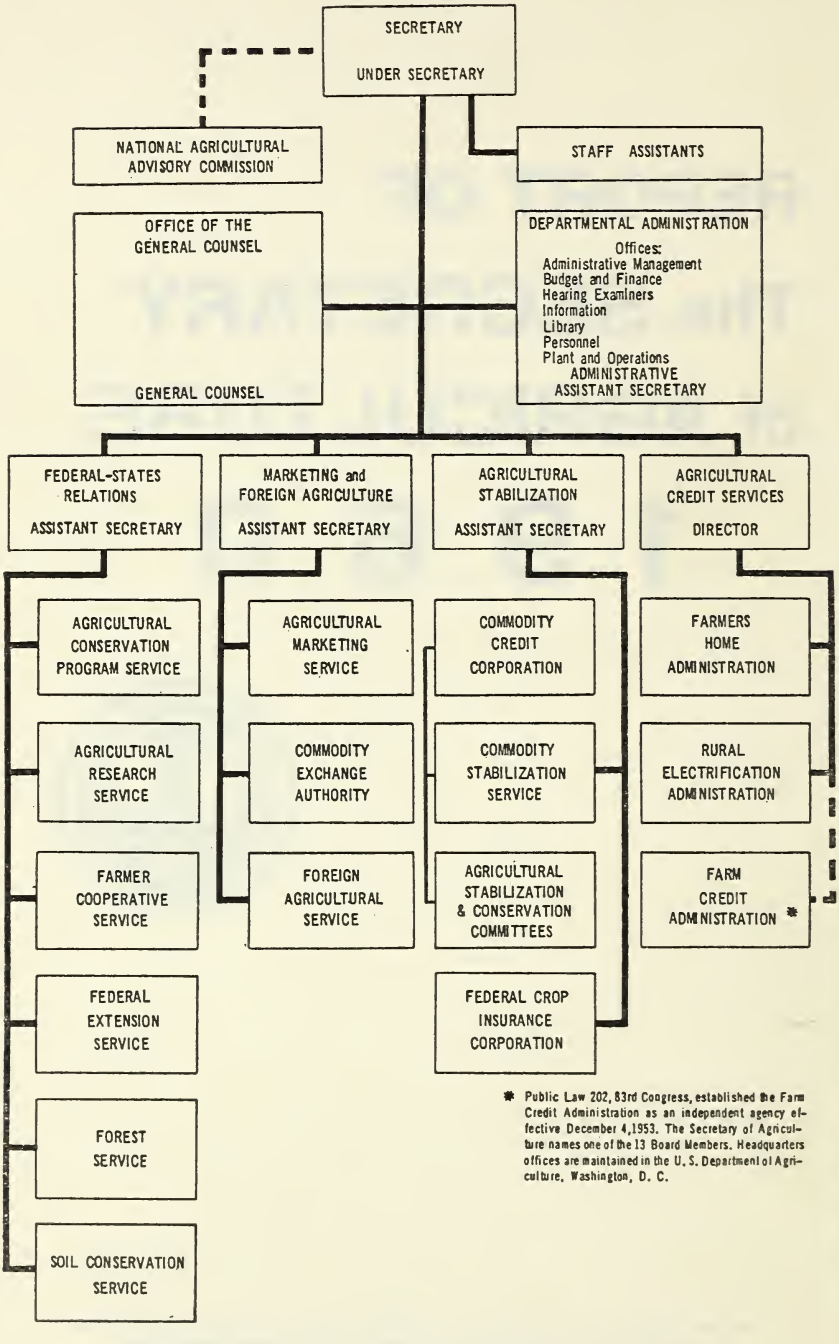
REPORT OF The SECRETARY of AGRICULTURE

1960

REPORT OF
The SECRETARY
of AGRICULTURE
1960

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington 25, D.C. – Price 35 cents

UNITED STATES DEPARTMENT OF AGRICULTURE



* Public Law 202, 83rd Congress, established the Farm Credit Administration as an independent agency effective December 4, 1953. The Secretary of Agriculture names one of the 13 Board Members. Headquarters offices are maintained in the U. S. Department of Agriculture, Washington, D. C.

Department of Agriculture,
Washington 25, D.C.

THE PRESIDENT,
The White House, Washington, D.C.

DEAR MR. PRESIDENT: Once again it is my privilege to present to you my report on how the Department of Agriculture served not only our farm people but all the people of the United States during the past year.

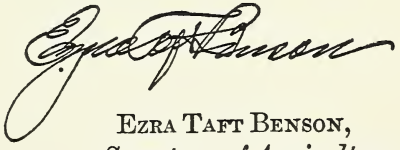
As you have said: "In America, agriculture is more than an industry; it is a way of life. Throughout our history, the family farm has given strength and vitality to our entire social order. We must keep it healthy and prosperous." This Annual Report for 1960 sums up briefly our efforts to help our people on the land keep the family farm "healthy and prosperous."

In these pages we have sought to tell the story of progress not only in 1960 but during the past 8 years. When you took office, Mr. President, the average farm worker produced food and fiber to support 17 persons; now the average farm worker produces food and fiber for about 25 persons—an increase of almost 50 percent. In these 8 years the value of agricultural assets has increased $41 billion, an average of almost $9,000 per farm. But what is of even greater importance in the long run is the fact that national policy has moved in the direction of greater freedom for farm people to plant, to market, to compete, and to make their own decisions.

Throughout this report you will see many specific examples of the work of our agencies, our scientists, our technicians, our administrators. And so this report, like others which have preceded it, is above all a salute to the devoted public servants of the USDA, whom I have come to know so well and admire so much during these past 8 years.

It is with pleasure that I submit herewith my annual report as Secretary of Agriculture for the year 1960.

Respectfully yours,



EZRA TAFT BENSON,
Secretary of Agriculture.

CONTENTS

	Page
WHERE WE STAND	1
PRODUCTION AND UTILIZATION RESEARCH	10
Agricultural Research Service	10
CONSERVATION AND LAND USE	18
Agricultural Conservation Program Service	18
Soil Conservation Service	20
Forest Service	25
INVESTMENTS IN BETTER RURAL LIVING	32
Cooperative Agricultural Extension Service	32
Rural Development Program	37
Farmer Cooperative Service	41
MARKETING OUR AGRICULTURAL ABUNDANCE	43
Agricultural Marketing Service	43
Foreign Agricultural Service	54
Commodity Exchange Authority	61
AGRICULTURAL STABILIZATION	62
Commodity Stabilization Service	63
Federal Crop Insurance Corporation	69
Planning for Defense	70
SOUND AGRICULTURAL CREDIT	72
Farmers Home Administration	72
Rural Electrification Administration	75
WHAT OF THE FUTURE?	79

REPORT OF

The Secretary of Agriculture 1960

WHERE WE STAND

In this, my eighth and last annual report as Secretary of Agriculture, it is appropriate to think back over the past 8 years and to ask ourselves what has been learned that can be applied to the future.

What *has* been learned? The answer, it seems to me, is that some old lessons have been learned anew.

The experience of these 8 years has demonstrated that the supreme test of any government policy, agricultural or other, is this: "How will it affect the character, morale, and well-being of our people?"

The future of agriculture and the preservation of a sound economic system in the United States depend upon the vigorous reemphasis of the principles, benefits, and values of private competitive enterprise. No group in America is in a better position to contribute to this need than those who live on the farms and ranches of America.

The experience of these 8 years has demonstrated that price supports on storable commodities can be useful in providing protection to the farm-producing plant and helping to stabilize national food supplies. But price supports which prevent production shifts toward a balanced supply in terms of demand—price supports which encourage uneconomic production and result in continuing heavy surpluses and subsidies—these should be avoided.

The principles of economic freedom are applicable to farm problems. Agriculture needs a minimum of restrictions on farm production and marketing to permit the maximum of dependence on competitive free market prices as the best guides to production and consumption. Farmers should not be placed in a position of working for government bounty rather than producing for a free market.

Inefficiency should not be subsidized in agriculture or any other segment of our economy. Relief programs should be operated as such—not as an aid to the entire agricultural industry. Emergency programs should be terminated as soon as the emergency is over.

But above all, the experience of the past 8 years has, I believe, given new meaning to the fundamental American concept that freedom is a God-given, eternal principle vouchsafed to us under our Constitution. It must be continually guarded as something more precious than life itself. It is doubtful if any man can be politically free who depends upon the State for sustenance. A completely planned and

subsidized economy weakens initiative, discourages industry, destroys character, and demoralizes the people.

We came into office in 1953 at a time of great agricultural upheaval.

Farm prices in general had been falling rapidly for nearly 2 years. Prices of beef cattle in particular were plunging lower and lower, so that some people were literally crying to the Government to, "Do something! Do anything!"

Vast areas of the country were suffering from long continued drought.

A very serious storage situation was in the making.

The dairy industry was afflicted by tremendous problems; it was losing markets, and dairy products were soon to reach mountainous heights in Government warehouses.

An unsound price support program was mandatory. It had farmers in a straitjacket and we could do nothing to get them out before 1955 at the earliest.

The pincers of a cost-price squeeze were closing powerfully on the farm economy. On one side, prices received by farmers were dropping. On the other, the index of prices paid by farmers had risen 133 percent since 1939.

Those were troublesome times for farmers—times of turmoil—times of stress. And as so frequently happens in such times, there were some who were urging with all the power at their command that we take agriculture farther down the road leading to socialization.

This was exemplified by the cattle caravan that came to Washington in October 1953 to pressure us into putting price supports under live cattle. This group was not truly representative of the Nation's cattlemen. It was an organized pressure group representing a small segment of the industry. We heard them out, and we pledged that we would continue to give the cattle industry every bit of sound help that was in our power. We were already doing that—but we invited them to come up with new sound proposals, and we would gladly receive them.

But the only thing they had to suggest was the old discredited price support program for live cattle.

We refused it—as we had done in the past and as we would do again and again in the future. We refused to do anything that would put the Government squarely into the cattle business, because we knew that once the Government got in, it would be next to impossible to get it out.

The great majority of the Nation's beef producers and cattle and livestock organizations agreed with us. There is a hard core of common sense in our farm families that has always been their safeguard against panaceas and quack cures.

We ate our way out of the surplus. The beef industry prospered. It is in good shape today. And it is free of Government interference.

As a farmer for many years, I do not minimize the seriousness of the very real problems our farmers were facing 8 years ago—and some of which still confront them today.

I am particularly concerned about wheat.

To put it bluntly, the existing wheat situation is a mess—a $1,000-a-minute mess.

Current wheat laws hurt farmers and cost taxpayers heavily.

They impose severe acreage cuts on traditional wheat farmers while inducing farmers outside the best wheat producing areas to grow more. The end result is more wheat than we can possibly use.

> We have in storage enough old crop wheat to meet domestic needs for 2 years without producing another kernel. Yet we operate under a program that produces additional millions of unneeded bushels.
>
> Congress set the rules for wheat growers, then set aside many of its own regulations! If the original control formula operated as intended, farmers would not have been permitted to grow a single acre of wheat this year.
>
> Farmers growing 15 acres or less of wheat are exempt from acreage restrictions. Today there are many more wheat farmers outside the wheat control program than in it.
>
> To keep wheat competitive in world markets, U.S. taxpayers are shelling out about 50 cents for every bushel of wheat exported.
>
> The total wheat program costs $1½ million a day. It drains off tax dollars at the rate of $1,000 per minute.

The wheat program has provided a bonanza to a relatively few farmers at heavy cost to all the other taxpayers—including the rest of the Nation's farmers. In 1959 only about 500,000 farms had over 15 acres planted to wheat—out of about 4,500,000 farms in the United States. Yet, as of June 30, 1960, the Commodity Credit Corporation had wheat holdings of nearly 1.2 billion bushels valued at more than $3 billion.

We need abundance. Agricultural abundance is the cornerstone of our economy. Farmers deserve ample assurance that they will not be penalized for answering the call to produce abundantly. But farmers and the entire citizenry need assurance that our price supports will not stimulate unneeded production.

In these days of cold war we just can't afford to waste land, manpower, machinery, gasoline, tires, and electricity in producing foods and fibers for storage far in excess of sensible reserves.

This situation is not *just* a farm problem—it is a *national* problem.

It is a national problem because of the heavy drain of tax dollars that it entails. And it is a national problem because past efforts to

deal with it have carried the country far along the road to Government regimentation and control over agriculture. Many of our farmers have lost far too much of their freedom to plant, to compete, to market, and to make their own decisions.

Farmers are not to blame for the troubles the Nation is having. The American farmer deserves our unstinting praise for his amazing productivity. Never in history have so many been fed so well by so few.

I repeat, the difficulties we are still having are largely the result of the old laws and the refusal of the Congress to make long-needed changes.

It has been said, "The Congress gave the Administration just about all the price support changes it asked for."

That is false. We do not have, and we never have had, anywhere near the full program of price support improvements we asked for.

When we took office in January 1953 our hands were tied for 2 years by the rigid 90 percent of parity price support law then on the books.

As soon as we could, we asked the Congress, as a start, to provide a flexible range of supports, running from 75 to 90 percent of parity. We got a range of 82½ to 90 for the first year, and 75 to 90 thereafter.

But then Congress passed a bill to restore the old 90 percent law and the President vetoed it.

Next Congress set up the Soil Bank, including the Acreage Reserve which we recommended as an emergency measure. But Congress made the Acreage Reserve applicable to 1956, despite the fact that much of the 1956 crop was already planted and in the face of our warning that it was too late to do any good that year.

In 1958 we asked that price supports be widened to a range of 60 to 90 percent of parity. What we got was a weak compromise—a fairly satisfactory program for corn—a stop-gap program moving in the right direction for cotton, some improvement in rice—and nothing for wheat, tobacco, or peanuts.

In 1960, Congress passed a mild bill that stopped the spiral upward for tobacco price supports. It did not solve the problem, but it was a step in the right direction.

And there, for all practical purposes, is where matters stand.

The Administation never got the program it asked for. It got a little of what it recommended—but even this came too late to be most effective.

Where we have had, or have been given, the authority to make price supports realistic the results have been good.

Corn is an example. Corn growers in 1959 were finally free to plant as their own good judgment dictated. The immediate result was some increase in acreage. However, acreage stabilized in 1960 and though 1960 production of corn was record high, consumption showed sharp increases in both 1959 and 1960.

Dairying is another example, even though we don't have all the

flexibility needed. Supply and demand for milk are practically in balance—for the first time in 8 years. Dairy products are moving into markets rather than Government warehouses and income is at an all-time high.

Where the old price support, acreage control law did not apply—as for hogs, cattle, fruits and vegetables, for example—farmers have generally done a good job of developing markets and adjusting supply to demand.

Very little is to be gained at this stage, however, by documenting responsibility for the problems that still exist. Let us rather examine what has been accomplished during these 8 years.

As I have indicated, limited progress has been made toward sounder price support programs through the Agricultural Act of 1954—the Act of 1956—and the Act of 1958.

Four-fifths of agriculture is free, and doing fairly well. Out of about 250 farm commodities produced commercially only 5 are under acreage controls.

But legislation is still needed—for wheat especially.

Progress has been made in extending to farm people legitimate benefits hitherto long denied them.

Social Security has been extended to farm families and farm workers.

The unfair Federal tax on gasoline used on farms has been repealed. And I am immensely proud to be able to say that the Rural Development Program, started by this Administration—the first real concerted effort to deal with the special needs of low-income farmers—will by the end of the 1961 fiscal year be operating in 38 States and Puerto Rico.

Agriculture and the Nation have moved ahead in the conservation of natural resources. During these 8 years farmers have applied more conservation to their farms than in any similar period in history.

Our National Forests are being developed and improved as never before. We developed new water-management programs and expanded existing programs. We established the Great Plains Conservation Program in 1956.

We have made progress in research.

Appropriations for agricultural research have been increased by 168 percent since 1953. A large part of these funds is being used to expand markets and find new uses for our farm abundance, and to develop new crops for current needs.

We have made progress in credit.

The Farm Credit Administration has been made an independent agency, in large measure farmer-owned and farmer-controlled.

The services of the Rural Electrification Administration and the Farmers Home Administration have been substantially improved.

Ranchers have been assisted with the biggest drought relief programs in U.S. history. Nearly $1 billion has been extended in disaster

and drought aid since 1953—most of it during the serious droughts of 1953 through 1956. Such aid enabled many fine farm and ranch families to stay on the land.

Various programs have held down the accumulation of surpluses. Except for realistic adjustments in price support, surplus disposal activities, and the Soil Bank, surplus accumulations might have risen $14 billion above existing totals.

Nearly 29 million acres of farmland have been taken out of production by the Conservation Reserve Program of the Soil Bank. These acres would have otherwise added to surpluses. Instead, participating farmers are making unprecedented strides in conserving soil, water, forests, and wildlife resources.

The Special Milk Program was inaugurated in 1954. In 1960, it operated in 83,000 school and child-care institutions where nearly 2.4 billion half pints of milk helped improve diets of our children.

The Food for Peace Program is moving ahead. We are working closely with Canada, Australia, France, and Argentina to promote wider use of surplus wheat.

We have made an outstanding record in donating surplus food to deserving people at home and abroad. Over 20 million U.S. citizens and some 62 million people in 92 foreign countries are receiving such donations.

No nation under Heaven has ever been so generous with its abundance. Every American who knows the story is proud of our record of sharing.

Great progress has been achieved in expanding exports.

During the past 7 years the value of our farm exports was the greatest for any 7-year period in history—$26.5 billion.

In the 1960 fiscal year, the volume of U.S. agricultural exports reached a new all-time high. Eight products set new all-time export records. The eight were feed grains, poultry meat, soybeans and cottonseed oil, dried beans, tallow, variety meats, and hops.

The size of the export job that American farmers are doing is indicated by the fact that half their wheat production and nearly half of their cotton production last year moved abroad.

The Food for Peace Program is making a great contribution toward improving the level of living in many parts of the world.

The products of our farms are helping people help themselves. Our agricultural productive ability is now recognized everywhere. So is our generous sharing of our abundance.

These are the facts. Such is the record of our 8 years of stewardship.

We have taken established programs and have improved them—research, for example, and extension, rural electrification, crop insurance, conservation, school lunch, and the credit services of Farmers Home Administration.

We have established new programs that are filling formerly neglected needs for our people—the Rural Development Program, the Great

Plains Program, Social Security extension, Public Law 480 and Food for Peace, the Conservation Reserve, and the Special Milk Program.

We have reintroduced the principle of flexibility into the price support program and restored to our people some of their lost freedom to plant, to market, to compete, and to make their own decisions.

When the history of this period of our agriculture is written years hence, this will be revealed as a period of great and lasting progress. *The groundwork has been laid for the kind of prosperous, expanding, and free agriculture that is so basic to a strong, virile, secure America.* We have reversed the trend of 20 years toward a controlled and socialized agriculture.

The year 1960 was a fairly good one for farmers.

Cattle producers had a good year—on top of some of the best years in their history.

Hog producers, too, had favorable returns.

Milk prices were above 1959 and dairy income in 1960 hit an all-time high.

Exports for the 12 months that ended June 30 set a new record for volume and were close to the record of 1957 in dollar value.

Wheat exports were sharply increased.

A million bales were cut from the cotton carryover, and cotton stocks on August 1, 1960, were the smallest since 1953.

Farmers' assets were at a record high of 204 billion, up $41 billion since 1953.

Farm debts were about 12 percent of farm assets.

The standard of living among our rural people was never better.

Following are some of the pertinent statistics of U.S. agriculture in 1960:

Farm Prices and Income

Cash receipts from farm marketings for the first 9 months of 1960 were estimated at $22.9 billion, almost 1 percent larger than in the same period of 1959. The volume of marketings was up about 3 percent, while prices received by farmers averaged 2 percent lower. Livestock and product receipts totaled $13.8 billion in January-September, down 2 percent from a year earlier. Crop receipts of $9.1 billion for the first three quarters of 1960 exceeded the same months of 1959 by nearly 5 percent.

Farm production expenses held relatively steady in 1960 with the easing of inflationary pressures on prices paid by farmers. Prices paid for production items, interest, taxes and wage rates in the first three quarters averaged slightly higher than a year earlier. Prices paid for feeder livestock and feed were down. Charges for interest,

taxes and farm wage rates were above a year earlier while prices for most other production items were about the same.

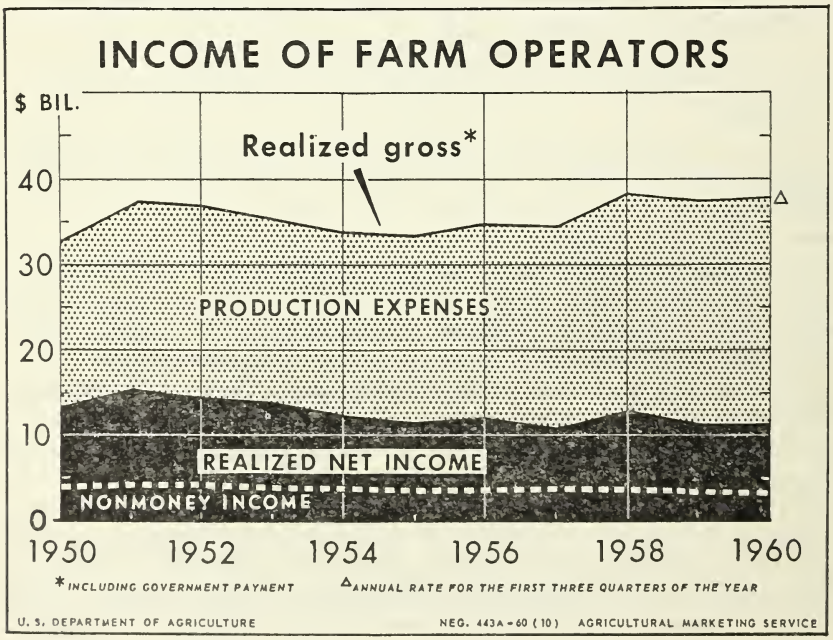
Estimates of cash receipts and expenditures of farmers for the first three quarters of 1960 indicate that realized net income of farm operators in 1960 would be about $11.4 billion, compared with $11.3 billion in 1959.

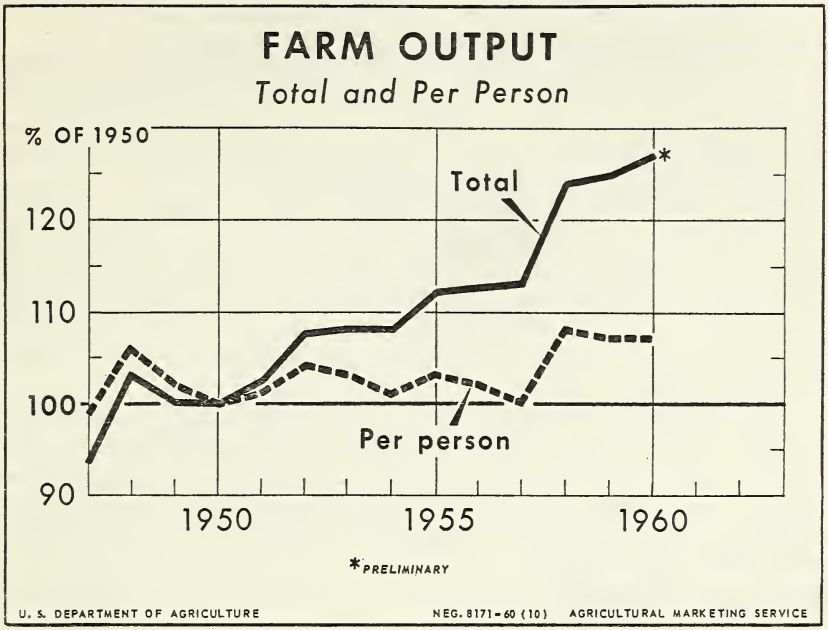
Review of Food Situation

Domestic use of our farm food commodities reached an all-time high during 1960. With 2.9 million more people to feed, U.S. agriculture responded with another year of record productivity. Consumption of food per person was maintained about 13 percent above the prewar level of 1935–39.

Retail food prices were a little higher in 1960 than in 1959. Marketing costs also rose, so that the farmer's share of the consumer food dollar was unchanged from the 38 cents of last year.

More beef, veal, and lamb were available to consumers in the summer and fall of 1960 than in 1959, but pork supplies were down. There was a little more poultry meat than a year earlier, but fewer eggs. Supplies of milk and dairy products were up moderately from the second half of 1959, as milk production continued at a higher rate. Fresh vegetables were in heavier supply during the summer and early fall of 1960 than a year earlier, but fresh fruits were somewhat less plentiful though in above-average supply. About as much canned fruit juices, but slightly less of the other processed fruits, are available for the current marketing season as in 1959–60. There are about





as much of canned vegetables and a little more of the frozen than a year earlier. Edible vegetable fats and oils in 1960 were as plentiful as a year earlier. Grains for cereals and bakery products continued in very heavy supply.

Farm Output

Production of farm products established another new record high in 1960. Crop output was about 3 percent above the previous all-time highs attained in 1958 and 1959. Planted acreage declined about 4½ million below last year, but yields averaged higher. Production of meat animals and other livestock products was just a shade under the record set in 1959.

Food grain production exceeded 1959 output by about a fifth with sizable increases for both winter and spring wheat.

The total wheat supply for 1960–61 was at a record 2,690 million bushels, 11 percent above the previous record a year earlier. Domestic disappearance is estimated at about 610 million bushels, about the same as the previous year. Exports are estimated at about 550 million bushels, equaling the largest exports in our history. The carryover on July 1, 1961, therefore, probably will total about 1,525 million bushels, an increase of over 200 million bushels from July 1960.

Supplies of feed grains and other concentrates for the 1960–61 feeding year are sharply above the record supply last year. Feed grain production was estimated at 169 million tons, 4 million above the record 1959 crop. Supplies were also augmented by a larger carryover.

Marketings of cattle, sheep, and lambs increased in 1960 from the year earlier, but hog marketings were down sharply.

The reduction in hog slaughter reflected the 16 percent reduction from the year before in the 1960 spring pig crop. By June, hog prices were above year-ago levels. With producers farrowing fewer sows in the fall of 1960 than last fall, hog prices should stay above a year earlier through at least the early part of 1961.

More milk and dairy products were available in 1960 than the year before because of increased production. Civilian consumption of these food products totaled a little higher (in terms of milk equivalent) than in 1959 but were down slightly on a per capita basis. Use per person of low-fat or fat-free fluid milk products has increased substantially for a number of years, while consumption of fluid whole milk has tended to decline.

Egg supplies in 1960 were below a year earlier, but production of turkeys and meat-type chickens was sustained at a high level. Consumption per person of eggs has been trending down over the past decade. Retail prices for eggs in 1960 averaged above the low levels of 1959, strengthened, in part, by USDA purchases for school lunch and welfare distribution.

Abundance Continues

The continuity of the technological revolution in agriculture was never more evident than in the all-time record output achieved in 1958, 1959, and 1960.

Farmers and ranchers are doing a magnificent job of producing an abundance of food and fiber. From 1950 to 1960 farm output rose 27 percent while the national population increased 19 percent.

The increasing productivity of our farmers has given our people far better diets, and helped give them far better health. It has done much to make possible our rising standard of living. It has provided manpower for industry and the professions. It has made, and kept, food a good buy. Our people today purchase much more food for an hour's take-home pay than they could a generation ago.

What the U.S. Department of Agriculture did in 1959 and the preceding years, and what we feel must be done in the future to deal with the problems of our agriculture, is the subject of the pages that follow.

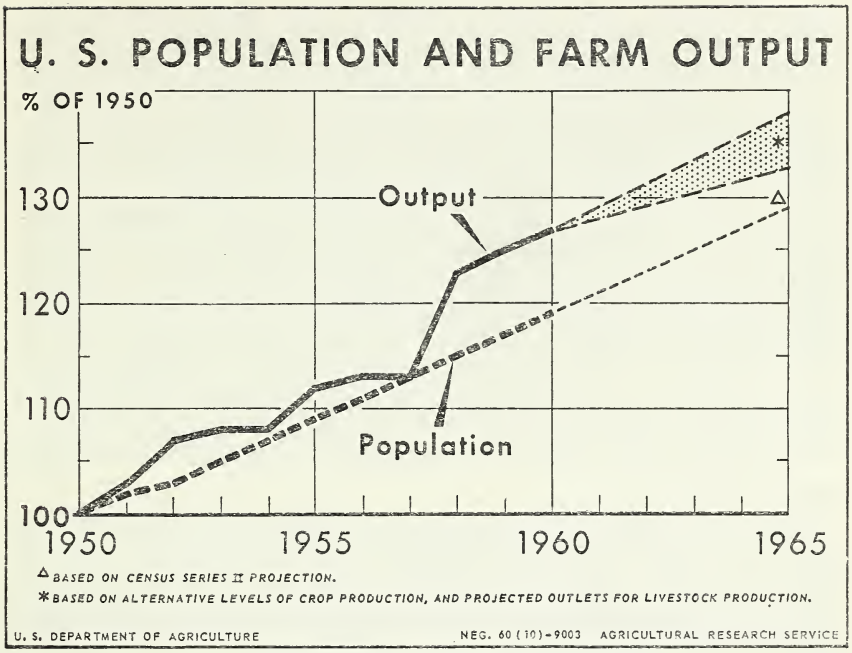
PRODUCTION AND UTILIZATION RESEARCH

Agricultural Research Service

In fiscal 1960, research continued to pay dividends in useful techniques and new materials. Even more important it yielded new knowledge that opens the way for further striking advances.

Plant Science

Scientists in our pioneering laboratories for research in plant physiology and mineral nutrition identified and named phytochrome, the



pigment that controls all plant growth from seed germination to flowering and fruiting. As this finding is elaborated in further work, scientists will be able to tailor crop plants with a precision far beyond our means today.

Another basic finding with exciting possibilities has to do with the nature of a plant's susceptibility to disease. Research on rusts that attack the flax crop shows that a characteristic protein is common to the particular races of rust fungus and to the lines of flax susceptible to them. This is the first step toward setting up analytical techniques for screening resistant lines quickly in flax improvement. Eventually it is expected to speed up the selection of rust resistant lines in all susceptible crops.

Continuing studies of crop germ plasms yielded three valuable new finds: Saia oats, native to Europe, carry resistance to all races of crown rust known here; annual ryegrass strains from Uruguay carry resistance to crown rust in ryegrass; and Blackhawk and other older varieties of soybeans can supply resistance to Phythophthora root and stem rot, a fungus disease responsible for increasing losses in the soybean crop.

Crop breeders in Federal-State research made solid gains in efforts to overcome costly hazards of production. Superior varieties released in 1959–60 included:

Hill soybean, a high yielding, early-maturing variety resistant to all major diseases of soybean foliage and to fungus rots of roots and

stems; Wells and Lakota durum wheats, highly resistant to race 15B stemrust; Curt oats, a Western short-strawed red variety, resistant to powdery mildew and northern anthracnose disease; Gulfrose rice, resistant to blast and hoja blanca disease; Vinall Russian wildrye, a superior seed producer; Seaway pea bean, an early-maturing bush-type, resistant to common bean mosaic; and Great Northern 1140 bean, an early-maturing variety resistant to mosaic diseases.

Among other releases were: Collins blueberry, a second early, large-fruited variety for the Northeast; Vanguard, Climax, Golden State C, and Golden State D, superior new lettuce varieties; Robinson, Osceola, and Lee, hybrid tangerines; U.S.-10 safflower, a widely adapted variety with resistance to root rot; Havana 501 cigar binder tobacco, the first with resistance to three serious diseases—wildfire, mosaic, and black root rot; NC 75 tobacco, a variety with high resistance to black root rot and moderate resistance to black shank and Fusarium wilt; and PD 611 tobacco, the first variety with resistance to the rootknot nematode.

Animal Science

ARS research made notable progress in efforts to understand and eventually control two costly hazards of cattle production—shipping fever and bloat. Scientists isolated the first of a number of infectious agents that cause shipping fever and traced feedlot bloat to the buildup of a particular bacteria.

New evidence of the durability of the virus of foot-and-mouth disease came out of studies that exposed the virus to high and low temperatures. It withstood both extremes for longer periods than previously assumed.

The first immune response to nodular worms in cattle was reported last year. The work demonstrated the presence of antibodies acting specifically upon the third and molt stages of the worms.

An agreement with the American Cancer Society, including a grant of nearly $100,000, enabled ARS scientists to step up cooperative research on avian leukosis, a cancerous disease of chickens. Laboratory techniques and other leads from this research are expected to be useful in studies of human cancer.

Our system of keeping livestock records for breeding improvement and disease control has been enormously strengthened in the past few years by the use of electronic computers. A new device, plastic eartags, will make the records more useful. The Department numbers and distributes the tags. They are being put to use by Dairy Herd Improvement Associations and artificial breeding programs in all 50 States and in cooperative efforts to eradicate animal diseases in 42 States. The tag gives permanent, uniform identification of each animal and simplifies keeping records of its location, movement, health, production, and breeding activity.

ARS scientists have perfected an instrument for measuring tenderness in beef immediately after slaughter. They have found that the ultrasonic devices used on living swine to determine thickness of back-

fat can be used also to show the ratio of lean meat and fat in beef cattle and lambs. These techniques are expected to help breeders pinpoint the genetic characters for better meat quality.

Two new strains of Navajo sheep were released in cooperative research. They are hardy enough to withstand the rigorous environment of the Southwest and able to produce both good feeder lambs and high quality fleeces for hand-weaving.

Another new research product of interest to wool producers is a machine for calculating the weight of clean fleece on a sheep. Called a "squeeze box," it can be used by the grower in estimating wool yields. It is also useful for ranking animals in a flock to select those for breeding. It should help overcome the great variations that exist in wool shrinkage even among sheep within the same flock.

ARS research supplied information to help packers meet requirements of the Humane Slaughter Act that went into effect June 30, 1960.

Soil and Water Research

A rapid, low-cost method for reclaiming alkali soils has been proposed by scientists of the U.S. Salinity Laboratory. The method involves the addition of sea water in small amounts to irrigation water. When the mixture is percolated through the soil, either at intervals or continuously, calcium and magnesium salts from the sea water replace and reduce the exchangeable sodium and make the soil more permeable.

A prefabricated liner of asphalt and burlap, developed by soil scientists in cooperation with manufacturers, offers an adequate seal for irrigation canals. It requires no special equipment or skilled labor for installation.

Evaporation accounts for losses as high as 50 percent in soil moisture. A new approach to evaporation control is coming out of research on the exchange of heat, water vapor, and carbon dioxide between a corn field and the atmosphere. More knowledge of the role of crop geometry in this exchange is the first step toward effective ways of dissipating heat and conserving moisture during drought.

Soil scientists have devised a widely applicable formula for predicting soil losses from erosion. The Universal Erosion Equation, as it is called, can help technicians across the country prescribe erosion control and management practices.

Engineering Advances

A new automatic feed distribution system mechanizes a time-consuming chore in livestock production. Designed to move ground feed from storage bin to feeder, it will serve feeders at different locations in the barn at the same time.

Studies of space for pigs grown and finished in confinement have shown that at least 20 square feet is needed per pig for the highest returns in rate of growth and feed efficiency.

Further evidence that feed efficiency is related to moderate temperatures comes from studies of cattle in shaded and unshaded feedlots. Those exposed to the sun required one and one-third more pounds of feed per pound of gain than those in shaded lots.

Pest Control Research

ARS scientists proved that screwworm flies can be eradicated from large areas by saturating populations of the wild flies with flies made sterile by irradiation. This past year we began tests to see if the technique works equally well in the eradication of fruit flies. The area under study is a small Pacific island in the Marianas group.

Still another plan is being tried in the Bonin islands, also in the Pacific. Here the target is the Oriental fruit fly. The method under trial combines a powerful lure—a chemical that attracts the male flies—with an insecticide.

Q-lure, another product of research, strengthens our defense against melon flies. It can be used to detect infestations before damaging populations of flies build up.

Field trials with a chemical that produces male-sterility in house flies and fruit flies promise control and eventual eradication of these troublesome pests.

Purification of the natural attractant of the female gypsy moth brings us a step nearer low-cost control of that destructive forest insect. Chemical analysis of the natural attractant will make possible a low-cost synthetic lure for use with insecticides.

Beetles from West Germany, now being imported, offer a biological control for the balsam woolly aphid.

During the past year research gave us new chemical controls for various farm hazards, including bacterial blight in cotton, plum curculio in peach orchards, and hairy vetch in fields where crimson clover seed is produced.

Scientists learned the mode of action of 4-(2,4-DB), the compound that kills weeds without damage to cereal and forage crops. They found that the weeds, but not the crop plants, contain an enzyme that converts this compound to 2,4-D. The chemical is thus highly toxic to the weeds but not to the crops.

Economic Information

Efficiency on all types of farms continued to increase. At the beginning of the decade each farm worker produced enough food, fiber, and tobacco to supply himself and about 14 other persons. During 1959 he produced enough for himself and about 23 other persons.

The rate of farm foreclosures in 1959 was 1.6 per thousand farms, near the record low. Although total farm debt rose slightly during the decade—from 10 percent of the value of farm assets in 1950 to 12 percent on January 1, 1960—it was still significantly low compared with the 19 percent figure for 1940.

Farm incorporation increased in importance as a form of tenure in commercial agriculture. Most farmers who bought land in 1959

did so to enlarge their farms and reduce risks. Farm taxes continued their sharp rise and were up 6 percent over 1959.

The prospect is that U.S. farms will continue to produce more wheat and feed grains over the next 5 years than the market will absorb. But over the longer term, an expanding population will exert heavy pressure on agricultural resources. A study made at the request of the Senate Select Committee on National Water Resources suggests that by the year 2000 a population of 329 million people in this country will require more cropland than we have now, even if yields are substantially increased. The estimated need is for added production equivalent to that obtainable from 120 million acres of new cropland, of which 40 million acres would need drainage and 10 million irrigation. The success of research in advancing farm technology will determine how much of this needed future production can be obtained on existing cropland.

Economic studies of rural development indicate Ozark farmers can increase farm income by enlarging enterprises such as feeder pigs, fattening hogs, and fattening yearling steers.

Utilization Research

USDA chemists have developed an economical process for modifying wheat flour to make industrial products that are useful as adhesives and as sizing and coating materials for paper and textiles.

A new cotton wash-wear treatment uses a compound known as APO to impart an outstanding degree of wrinkle resistance. The treatment has little effect on the feel and other qualities of the fabric and is more durable in both home and commercial laundering than other treatments now used.

Rising U.S. soybean sales in Japan are based on research information that shows U.S. soybean varieties best suited for making miso and tofu, important high protein foods in Japan. The information was developed by two Japanese scientists who spent a year conducting research at an ARS utilization laboratory.

A process devised by ARS chemists for producing three corn sugar acids has enlarged industrial markets for 10 million pounds of corn sugar annually. The new acids are used in bottle-washing compounds, for aluminum etching, in pharmaceuticals, and in veterinary medicine.

ARS research showing that a storage temperature of 0° F. is essential for top quality in frozen foods has sparked widespread and continuing improvement in the refrigeration of trucking lines, railroads, warehouses, and retail stores.

ARS chemists made further progress last year in isolating components that contribute to the flavor, odor, color, texture, and freshness of fruits, vegetables, bread, meat, and poultry.

From the Institute of Home Economics

A 5-year nutrition study of 7- to 9-year-old girls, cooperative with State agricultural experiment stations in the southern region, affords more metabolic data on more individuals and on more nutrients than

ever obtained for any age group. Among the findings is evidence that, under the most favorable dietary conditions, 22 grams of protein and 2,200 calories daily can meet minimum requirements of this age group. The level and kind of protein fed affects not only nitrogen retained for growth but also the use and retention of calories, minerals, and B vitamins.

The special needs of aged and physically handicapped homemakers are met in clothing designs released in fiscal 1960. The designs have special features that add to the comfort, convenience, safety, and usefulness of each garment. They are being used by professional groups concerned with problems of the handicapped and by commercial concerns who may apply them to their products.

Research findings that can be used to improve health through right eating are summarized in two recent USDA bulletins. One on "Nutritive Value of Foods" gives data on calories, protein, fat, carbohydrate, calcium, iron, and five well-known vitamins for more than 500 commonly used foods. The other, "Food and Your Weight," combines information on calorie values of foods with facts on calorie needs in relation to age, size, and physical activity.

Regulatory Activities

Major accomplishments in regulatory work against livestock pests in 1960 were: (1) Eradication of vesicular exanthema, which only 6 years ago infected hogs in 43 States; (2) eradication of screwworms from the Southeast, where the pest was formerly responsible for livestock losses of from $10 to $20 million each year.

We marked a milestone in our efforts to wipe out brucellosis from the United States, when on June 30, 1960, New Hampshire became the first State completely free of the disease. Twenty-four other States have almost eliminated this primary disease threat to the Nation's cattle.

During the past year we made gains against plant pests on many fronts. Our regulatory force eliminated all known infestations of khapra beetle in the United States and Mexico, stopped the spread of pink bollworm, and reduced grasshopper populations to an all-time low.

Also during the year we began a program to suppress the spread of witchweed, a new threat to corn, sugarcane, and sorghum. The regulatory forces treated nearly a million additional acres to eradicate imported fire ant, made progress toward the eradication of hoja blanca disease of rice, and completely eradicated Hall scale on western fruit trees.

The ARS Plant Pest Control Division registered nearly 4,700 new pesticides and other products last year. This brings the cumulative total of new products registered under the Federal Insecticide, Fungicide, and Rodenticide Act to almost 50,000. The Division found only 263 of the 1,550 samples of pesticides examined during the year to be in violation of the Act.

Plant Quarantine

The task of safeguarding this country against plant pests required the inspection of more than 139,000 planes, more than 60,000 ships, and almost 23 million vehicles at U.S. borders. Compared with 1950, that was twice as many planes, a fourth more ships, and almost three times as many vehicles.

This past year, ARS regulatory officials intercepted 315,000 lots of unauthorized plant material and stopped destructive pests from entering the country once every 17 minutes during the working year.

Meat Inspection

Every working day during fiscal 1960, Federal meat inspectors condemned an average of 1 million pounds of carcasses, parts of carcasses, and meat products. But this was only a fraction of the inspection load. Carcasses of more than 107 million animals received the purple stamp of approval, "U.S. Inspected and Passed."

Federal meat inspectors were on duty in 1,396 establishments in 572 cities, nearly 500 more establishments and some 200 more cities than at the beginning of the decade.

Highlights of ARS Progress, 1953–60

During the past 8 years work in production and utilization research was strengthened at many crucial points.

We began by reorganizing research and regulatory activities. Our aim was twofold: To bring scientists of many disciplines together for research largely along commodity lines; and to extend and give flexibility to the regulatory forces that safeguard our crops and livestock and inspect our meat supply.

We intensified our search for new uses of farm commodities and for crops to replace those in surplus.

We set up pioneering research laboratories where scientists with a high level of curiosity, imagination, enthusiasm and mental energy are gaining new light on the complex patterns of the natural world.

We obtained increases in appropriations for ARS research—from not quite $45 million in 1953 to almost $92 million in 1960. We used the funds to add almost 3,000 employees, many of them scientists of high promise, to the ARS staff, and to buy equipment—automatic handling systems, electronic computers, animal respiration chambers, gas chromatographs, and many other instruments—for raising our research potential.

Since 1954 we have invested $11.5 million in the construction of facilities now in use. Five laboratories were completed during fiscal 1960: one for research on wool at Albany, Calif., and four for research on soils and water at Watkinsville, Ga., Oxford, Miss., Morris, Minn., and Tempe, Ariz.

We are using funds accumulated from the sale of farm surpluses abroad under Public Law 480 to contract for research of interest to U.S. agriculture in laboratories around the world. In fiscal 1960, scientists in England, Finland, France, India, Israel, Italy, Pakistan, Poland, Spain, and Turkey began work on USDA contracts under this program. Their assignments ranged from broad surveys of native plants potentially useful to the United States to highly specialized studies of chemical residues on crops.

CONSERVATION AND LAND USE

Never before in the history of the United States has there been such widespread and growing appreciation of the need to conserve and improve soil, water, grass, timber, and wildlife resources. Our people are thinking of conservation not merely in terms of combating soil erosion, but in terms of production potentials for food and fiber, and expansion potentials for industry, transportation, recreation, and living room for our rapidly growing population. The Department of Agriculture and other conservation agencies have the important task of furnishing the leadership required to solve our conservation problems.

Agricultural Conservation Program Service

Gove County, Kans., is in an area of climatic extremes. Hot summer winds dry up moisture, reduce topsoil to powdery dust which blows and drifts. Ice and snow grip the unforested prairie in winter. Sudden spring thaws and violent rainstorms cut gullies and wash away topsoil.

With Agricultural Conservation Program cost-sharing as an incentive, an effective countywide effort to check severe erosion was launched by farmers, the county agent, Soil Conservation Service technicians, soil conservation district supervisors, and Agricultural Stabilization and Conservation committeemen.

Educational efforts were stepped up to encourage farmers to undertake needed conservation work, and to help farmers adjust their farming methods to meet the requirements of terraced and contoured fields.

Through ACP cost-sharing, 2,008,000 linear feet of terraces on 11,485 acres were completed in 1959. Cost-shares for terracing were limited to 160 acres per farmer per year to enable each farmer to learn to farm on the contour parallel to the terraces, observe the results, and demonstrate conservation benefits to other farmers.

In 1960 terracing in Gove County is on the increase, both with and without ACP cost-sharing.

In 1960, its 25th program year, the National ACP continued to operate throughout the United States and its territories as a farmer-government partnership, recognizing both the farmer's responsibility for protecting and improving his land and the government's responsibility in the public interest. Every farmer was eligible to participate on a voluntary basis.

The program is coordinated nationally by the Agricultural Conservation Program Service and administered by the Agricultural Stabilization and Conservation Committees of farmers, in all States and agricultural counties. The State director of agricultural extension is a member of the State committee and the county extension agent is a member of the county committee.

Through cost-sharing, farmers and ranchers invested their own money, time, machinery, and labor, amounting nationally to about half the cost of installing approved conservation measures. ACP assistance in the form of materials, services, and financial aid, accounted for the other half. In calendar 1959, over a million participating farmers received $210 million in total cost-share assistance. The resulting total conservation investment under the program was about $420 million.

The ACP offered cost-sharing on practices that helped farmers (1) establish the kind of conservation they needed, at the time they could best fit measures into their farming operations, and (2) adopt or advance conservation systems of farming to help assure an agricultural resource capacity adequate to meet the future food and fiber requirements of an increasing population.

In addition to cost-sharing the program helped finance an increase in the technical assistance available to farmers from Soil Conservation Service and State forestry services.

Of the cost-share funds used to establish approved conservation in 1959, four-fifths was for long-term practices with enduring benefits.

ACP cost-sharing was used on 16,983 farms in 1,935 "pooling agreements" in 38 States to help solve water and other conservation problems that affected more than one farm, but could not be solved by farmers working separately on individual farms.

Benefits of ACP cost-sharing on individual farms and ranches extended to the conservation efforts of other local, State, and Federal groups dealing with agricultural resource problems affecting land-use adjustment, watershed measures for flood prevention, and rural development.

Of particular importance in current land-use adjustment problems is the concern for shifting more surplus crop-producing acres into long-term protective cover. The ACP has stressed conservation practices that also helped farmers shift their operation away from production of crops already in surplus supply, and crops that deplete the productive capacity of the soil, toward planting and improving grass, timber, and other soil-saving crops not in surplus supply.

576922—60——4

Farmers using 1959 ACP cost-sharing established and improved over 11 million acres of grass and trees. They planted 3.5 million acres into permanent-type grasses and legumes, and 361,000 acres of trees.

In 1960 the ACP continued the provision that State ASC committees "give particular consideration to the furtherance of watershed conservation programs sponsored by local people and organizations." ASC county committees again participated in organizing watersheds and consulted with local leaders on how farmers could best utilize ACP cost-sharing to accelerate installation of on-farm conservation practices needed to protect watershed land and structural measures.

In the three types of watersheds authorized for operation by the USDA, 45,288 farmers used $9,305,000 of ACP cost-sharing to establish conservation measures in 1959. In the 11 approved Flood Prevention Watersheds, 27,432 farms used $5,848,000 of ACP cost-sharing. In 55 Pilot Watersheds, 3,344 farms used ACP cost-sharing amounting to $654,000. In 202 Public Law 566 Watersheds, 14,512 farms used $2,803,000 of ACP cost-sharing.

On many farms, low income, under-use of human resources, and failure to protect, improve, and fully utilize agricultural resources go together.

However, in Rural Development pilot counties, farm families with labor and agricultural resources previously not fully utilized, have demonstrated that protecting and improving soil, water, and woodland resources through ACP leads to (1) better use of other agricultural services, and (2) greater income opportunities, improved economic conditions, and strengthened family and community life.

The demonstrated success in Rural Development pilot counties is leading to program adaptations in other areas with similar resource and economic conditions.

Highlights of ACPS Progress, 1953–60 (Includes Estimates for 1960)

Grass and legume cover for soil protection or land use adjustment	105,000,000 acres.
Water storage reservoirs	521,000 structures.
Terracing	6,000,000 acres.
Stripcropping	13,000,000 acres.
Tree planting	1,900,000 acres.
Woodland improvement	1,600,000 acres.
Lime to permit establishing conservation cover	123,000,000 tons.
Drainage for conservation farming	11,000,000 acres.
Wind erosion control in serious wind erosion areas	24,000,000 acres.
Stubble mulch to conserve soil and water	45,000,000 acres.
Water spreaders and diversions	39,000 miles.

Soil Conservation Service

An Elko County, Nev., rancher has increased his hay yields sevenfold and beef yields tenfold during the past 10 years by

replacing native meadows with alfalfa and improved grasses, increasing the efficiency of water used in irrigation, and improving the grazing and management practices on his ranch.

When this man bought the ranch in 1949, he cut 450 tons of meadow hay from 1,000 acres. Now he averages 3,000 tons from 800 acres. In 1949, the ranch was supporting 260 head of cattle, now it has between 2,000 and 3,000 head.

The ranch includes 16,600 acres of deeded land, and grazing rights on an additional 100,000 acres of public land.

After cutting his first meadow hay crop in 1949, and getting only 450 tons from 1,000 acres, this rancher recognized that he needed higher yields and better use of water to produce more feed for more livestock.

He became a cooperator of the Starr Valley Soil Conservation District. SCS technicians, assisting the district, made soil and range site surveys and topographic maps for him and helped him develop a conservation plan for the entire ranch.

To increase his water supply, he drilled a 350-foot well in 1951. The well pumps around 2,000 gallons a minute.

He further increased his water supply in 1955, by digging a sump 250 by 350 feet in area, filled by ground water. The sump yields around 1,000 gallons a minute. Thus the combined yield of the well and sump is 6 to 7 cubic feet per second.

The irrigation system on the ranch includes about 45 miles of canals, and numerous water control structures. About 800 acres have been leveled for more efficient irrigation, from 50 to 100 acres being leveled each fall. Border ridges are used to obtain better efficiency in water use.

Most of the conservation work has been done by ranch employees with SCS providing the technical assistance.

Nationally, more than 1.8 million farmers and ranchers, operating about 571 million acres, cooperate with their local soil conservation districts to conserve and improve soil and water resources.

During the year the Soil Conservation Service provided technical help to 2,867 conservation districts, including more than 95 percent of all farms and ranches and 90 percent of the farmland in the 50 States, Puerto Rico, and the Virgin Islands. About 99,500 basic conservation plans, covering some 30 million acres, were developed during the year. This brought the total of basic conservation plans to 1,301,000, covering more than 378 million acres. In addition, 20,600 basic plans covering 11.5 million acres were revised and brought up-to-date during the year. These plans provide a blueprint for using each acre of land within its capabilities and treating it with all conservation practices needed for protection and improvement.

Soil surveys on about 50 million acres were completed during the year, while range site surveys were made on an additional 14 million acres. More than 658 million acres now have soil and capability maps suitable for farm and ranch conservation planning.

Group Enterprises

In the Dry Creek Soil Conservation District of southwestern Idaho, eight farmers solved troublesome water problems by working together to install a $9,500 irrigation-water delivery system during the winter of 1959–60.

The new project includes 5 water control structures and 2,950 linear feet of concrete pipe. The system delivers water to 460 acres of diversified crops. It replaces nearly 1 mile of eroded, seepy, and rodent-infested ditches.

The improvement was planned with the help of SCS engineers, technicians, and district supervisors, and was completed under a "pooling agreement" which provided for financial help from the Agricultural Conservation Program.

A member of the group says: "We have at least one-third more water for use on our crops as a direct result of the pipeline. And the labor that formerly was spent on ditch maintenance now is being applied to the improvement of our individual farms."

Through local soil conservation districts, SCS furnished technical assistance on 2,500 water-management group enterprises similar to that of the Dry Creek District. These projects, involving improved irrigation, drainage, or other water conservation and use problems, benefited about 5 million acres.

Watershed Production and Flood Prevention

The small watershed has become widely recognized as a practical unit for soil and water resource protection, development, and management.

The farmers along Johnson Creek, in Madison County, Tenn., started farming the bottomlands again in 1960—the first year they have been able to do so in more than a decade without the probability that their crops would be drowned out, washed out, or smothered with sand and silt. They are able to resume farming on these rich bottomlands mainly because the Johnson Creek watershed protection project is nearing completion.

Four new floodwater detention reservoirs, which can trap 2,792 acre-feet of runoff water, then release it slowly, are now functioning on the upper reaches and tributaries of the sediment-filled stream. Rains that would have flooded the bottomlands in previous years now scarcely cause a rise in the creek. The fifth, and last, floodwater detention dam

planned for this watershed will be completed before 1961, giving still further protection to downstream farmers.

More than 50 percent of all needed soil and water conservation practices had been applied to the land by 1960. Land treatment included the planting of nearly 1.5 million pine seedings on 1,400 acres of gullied land that had been eroding critically.

Local organizations, similar to those along Johnson Creek, submitted 171 applications for Federal assistance on small watershed projects, under Public Law 566, during fiscal 1960. At the end of the year, 1,319 applications had been submitted from 47 States and Puerto Rico. During fiscal 1960, 120 applications were approved for work plan development, bringing to 566 the total number of small watersheds approved for planning.

During the year, 157 floodwater retarding structures were completed, and an additional 256 were contracted and under construction, in the 146 small watersheds approved for structural works under Public Law 566. This brought the total number of such structures completed to 239. Channel improvement work was completed on 83 miles of stream channels during the year, bringing the total amount completed to date to 178 miles. Land treatment work was progressing satisfactorily on all watersheds approved for Federal assistance in planning or works of improvement.

Of the 62 pilot watershed protection projects approved for Federal assistance in 1953, 10 were completed during fiscal 1960, bringing the total completed to 33. Seven projects have been discontinued at the request of the local sponsors. Fifteen of the remaining 22 projects are scheduled for completion during fiscal 1961, and the rest during 1962.

Flood prevention operations continued at a satisfactory rate on the 11 authorized watersheds (under the act of 1944) covering more than 30 million acres. During the year, 18 subwatershed work plans were developed, making a total of 198 subwatersheds and subwatershed areas that have been planned on these 11 watersheds to date.

Specialized technical assistance was provided by SCS and other Department agencies to many of the States, on request, about water problems and water rights studies. River basin investigations that transcend State lines were begun or continued on 14 major rivers. These investigations are made in cooperation with the States involved and other Federal agencies concerned with water storage, flood control, or navigation.

Great Plains Conservation Program

Farmers and ranchers during fiscal 1960 entered into 2,048 contracts involving 5,571,000 acres under the Great Plains Conservation Program. At year end, Great Plains contracts totaled 4,935 and covered more than 13 million acres. Under contracts signed in fiscal 1960

farmers and ranchers agreed to retire about 180,000 acres of marginal land from cultivation to grass or trees. The Great Plains area should benefit by the stabilization of the agricultural economy and conservation of soil and water resources provided for under this program, especially during periods of severe drought.

Snow Surveys

Working with Federal, State, and local or private agencies, SCS obtained accurate snowpack information on about 1,300 snow courses in the Western States during the winter and early spring of 1960; and in cooperation with the government of Canada obtained such information on the tributaries of the Columbia River in that country. The early spring estimates released by SCS on probable spring and summer runoff helped farmers plan cropping systems and provided all citizens with helpful information about available water supply and the probability of floods.

Conservation Needs Inventory

In 1956 USDA started a national inventory of soil and water conservation needs. Eight Department agencies participated in this the most comprehensive effort ever undertaken to inventory the Nation's land resources and reveal the need for conservation treatment. The survey was completed, county by county and State by State, early in 1960. We were in the process of reviewing, tabulating, and compiling the facts for publication at the end of the year.

Other Programs

SCS technicians assisted Agricultural Conservation Program participants on about 332,000 farms and ranches with permanent-type practices on which cost-sharing was requested during the 1959 program year.

The soil and land capability information supplied by SCS became of increasing importance in planning local rural development programs.

SCS provided technical assistance to about 3,900 participants in the conservation reserve program of the Soil Bank.

Assistance to the Farmers Home Administration in its conservation and watershed loan program was continued.

Highlights of SCS Progress, 1953–60

From 1953 to 1960, substantial progress was made in practically all phases of soil and water conservation, but especially in small watershed protection and flood prevention programs.

Soil conservation districts increased from 2,549 containing about 1.4 billion acres in 1953 to 2,867 districts containing about 1.67 billion acres in 1960. Farmers and ranchers co-

operating with these districts increased from 1,296,969 in 1953 to 1,849,000 in 1960, and their acreage operated from about 376 million acres to 571 million acres.

Soil surveys, mapped in sufficient detail for farm and ranch planning, covered about 423 million acres in 1953 and 658 million acres in 1960.

Group enterprises, mainly for water management and conservation, increased from 12,561 projects, benefiting about 9.9 million acres in 1953 to 24,000 projects, benefiting 34 million acres in 1960.

The especially rapid progress in watershed protection and upstream flood prevention was due mainly to new programs initiated during the 7-year period, including the "pilot" watershed demonstration program begun in 1953 and the small watershed protection and flood prevention program started in 1954, under Public Law 566.

Flood prevention work on the 11 watersheds authorized for operations in 1944 spread from 80 subwatersheds where structural works were under way or completed in 1953 to 198 subwatersheds, containing about 16 million acres by 1960. In addition, structural works were completed on 33 of the pilot watershed projects started after 1953, and were nearing completion on the other 22 active projects. In the meantime, applications have been pouring in for Federal assistance on small watersheds, under provisions of Public Law 566. Altogether, 1,319 applications have been received, 566 projects approved for planning, and 146 projects approved for construction of structural measures.

The Great Plains Conservation Program, started in 1956, had 4,935 contracts covering more than 13 million acres by July 1960.

The Conservation Needs Inventory, initiated in 1956, was completed, except for some final tabulations, in fiscal 1960 and will serve as the main guide for future planning of conservation and land use programs by the Department and other agencies.

Forest Service

The Multiple Use-Sustained Yield Act of June 12, 1960, for the first time gave specific recognition in a single statute to all five of the renewable surface resources of the national forests—outdoor recreation, range, timber, watershed, and wildlife and fish. The law directed that national forests be administered for the multiple use and sustained yield of their several products and services.

The Program for the National Forests, launched during the year, is a broadscale action plan to enable these forests to

contribute their full potential to our fast-expanding population and economy.

For the second year more than 2 billion trees were planted on some 2 million acres—about 90 percent of this was on private lands.

Antibiotics were being adapted to the control of a tree disease. They are showing great promise against blister rust which takes a heavy toll of valuable white and sugar pine.

Cash receipts from national forest timber and other resources reached $148 million, exceeding fiscal 1959 receipts by $24 million.

A Nation's Playground

Besides other renewable resources—forage, timber, water, and wildlife—our national forests offer fabulous scenic wealth. With a strong outdoor heritage, Americans are returning in larger numbers to field, stream, and forest for vacations. The estimated 94 million recreation visits to national forests in 1960 were some 13 million more than in 1959.

Under Operation Outdoors, now a part of the Program for the National Forests, improved and newly built facilities contribute to visitors' enjoyment and safety. A good job of maintenance has been done on the 5,600 developed sites, but overcrowding continues at many sites. Present expansion plans call for 102,000 additional family units by 1972.

The Recreation Survey, begun in 1958, to get a clear picture of recreation resources and opportunities available on national forests, is progressing on schedule.

Recreation research is being expanded and strengthened, and the first research center concentrating on forest recreation was started at Warren, Pa.

An additional 754,730 acres were set aside during the year as wilderness, wild, or scenic areas, to be protected in their primeval splendor. This brings total national forest areas so reserved to 14.6 million acres. New areas are the Bridger Wilderness in Wyoming, Tracy Arm-Fords Terror Scenic Area in Alaska, Glacier Peak Wilderness in Washington, and the Wheeler Peak Wild Area in New Mexico.

The Range Resource

Valuable forage on national forests contributes to a stable livestock industry in the West. For the year, 1,069,000 cattle and 2,559,000 sheep grazed under paid permit on 60 million acres. These plus calves and lambs under 6 months of age, which are grazed free, are estimated to total 6 million head of livestock. In addition, 178,000 cattle and 59,000 sheep grazed under permit on 4 million acres of Land Utilization Projects.

Revegetation work was done on 271,860 acres of depleted national-forest rangeland—an increase of 122,745 acres over fiscal 1959. Another 18,092 acres were revegetated on Land Utilization Projects.

In a major conservation move, 3.8 million acres of Land Utilization Projects, mainly in the Great Plains States, were redesignated National Grasslands. This will assure long-term wise use of resources and promote the economic stability of Great Plains agriculture.

Range research continued in diversified studies to improve producing ranges, restore depleted ones, and conserve basic soil and water resources.

Record Timber Harvest

An all-time record 9.3 billion board feet of timber was cut from national forests in fiscal 1960, up a billion board feet over the previous year.

Now containing most of the old-growth sawtimber left in this country, our National Forests are being called upon to supply more of the Nation's expanding wood needs. The 9.3 billion board feet cut in 1960, valued at $156 million, was 14 percent of the timber harvested in the entire country.

The 1960 harvest was an increase over 1959 of 12 percent in volume and 30 percent in value. More timber was sold in 1960 than ever before: 12.2 billion board feet. This included 3 billion board feet of pulpwood in Arizona and New Mexico which will bring a valuable new industry to that area; cutting the low-quality trees will also thin and improve the rest of the forest.

To get sustained yield, young trees must be planted as mature ones are harvested. In the expanding reforestation work of 1960, 136,000 acres were planted or seeded; an increase of 24,000 acres over 1959 and the best planting record since 1941. Such improvement work as pruning and removing diseased, cull, and low-value trees, to improve growth and quality of young timber stands, was done on 558,000 acres.

Engineering plays a basic role in forestry. Roads, trails, and bridges must be constructed, improved, and maintained; maps are necessary, and boundaries and corners need to be surveyed and reestablished. Existing road mileage represents only 30 percent of the access routes which will ultimately be required. Construction has begun on 3,000 miles of new roads. Mapping to June 30, 1960, provided planimetric coverage for 386,618 square miles or about 53 percent of needs. This work is continuing at the rate of 30,000 square miles annually.

Work continued in reestablishing and marking boundaries. Corner recovery and property line retracement are being accomplished faster and more efficiently with the aid of aerial photography and photogrammetry.

576922—60——5

Extremely dry conditions and heavy lightning storms brought to the West the worst fires since the early 1930's. During July 1960, more than 4,000 fires occurred in California, Oregon, Washington, Montana, and Idaho; 28 fires burned to more than 2,000 acres each. In an all-out battle, 25,000 firefighters were on the fireline with hundreds of tractors and pumpers and some 300 aircraft in use. Firefighting cost for July alone was $15 million.

The damage to forest and land resources would have been far greater except for extensive use of smoke jumpers, aircraft cascading water-chemical mixtures on fires, and other improved techniques.

The effectiveness of an intensive prevention effort, improved equipment, and better trained personnel is reflected in the record. Comparing averages for the 5-year periods, 1950–54 and 1955–59, man-caused fires have decreased 27 percent, and the area burned has been reduced by 52,762 acres annually, or 18.4 percent.

Leadership and technical services are provided to prevent, detect, evaluate, and suppress insects and diseases in all forest lands; for non-Federal lands the services are on a cooperative, cost-sharing basis.

Suppression work was done on outbreaks of 16 species of barkbeetles and weevils and eight species of defoliating insects on 80 national forests and on private lands in 15 States.

Through share-the-cost projects, 1,310,000 acres of non-Federal land in 18 States were treated to suppress white pine blister rust; similar treatment was given to 226,000 acres of national forests. In Idaho about 4 million trees were treated with recently developed and remarkably effective antibiotic fungicides which promise a spectacular breakthrough in the long fight against blister rust.

A large and varied program of research is being accelerated to meet the challenge of greater demands on limited forest resources.

> Marking its 50th anniversary this year, the Forest Products Laboratory, Madison, Wis., received plaudits from industry and government leaders for achievements in wood research.
>
> "Men are doing things with wood today that will change our whole concept of this ancient material," said a feature article in a national magazine. "Putting chemicals into it, they are producing wood that won't burn; wood that won't shrink, swell or warp; wood that defiies the attack of termites and decay. Taking chemicals out of it, they are creating a wide variety of commercial products—yeast, alcohol, adhesives, plastics—even the vanilla flavoring for your ice cream."

Trees that grow faster, are better suited to specific localities, and that resist diseases are being scientifically bred at forest genetics institutes. Both chemical and biological disease and insect controls have

been improved. The raw material base for pulp and paper products was broadened by a new method of making newsprint, mimeograph paper, and viscose-grade sulfite pulp from mixtures of western woods. Through expanded use of the cold soda pulping process, developed by the Forest Products Laboratory and now used worldwide, more of the plentiful low-grade hardwoods are going into liner board and other paper products. A long search to convert wood residues and waste to industrial chemicals has reached the pilot plant stage.

Cooperative Forestry—Private Lands

Tree planting increased for the ninth consecutive year, with both 1959 and 1960 showing records of more than 2 million acres planted or seeded, including public and privately owned lands. In 1953 plantings totaled 715,548 acres, less than a third of the 1960 record. Total acreage planted and to be planted on land removed from crop production under the Conservation Reserve comes to 2,200,000 acres.

Although the planting record for the past few years has been remarkable, it still falls short of the need. About 40 million acres of private lands ought to be planted now.

Woodland management technical assistance was provided to small landowners through cooperation of the Forest Service and State foresters. Through 424 projects, 45 States and Puerto Rico assisted 76,546 woodland owners with 4,146,146 acres. The Federal Government contributed $1,353,212; the States $2,391,120.

To insure adequate fire control on State and private lands, it was first necessary to provide organized protection on 435 million acres of forest land and nonforest primary watersheds. About 92 percent of this goal has been achieved; however, 60 percent of the area burned annually is on the unprotected 8 percent. More than 200 million acres under inadequate protection are subject to major losses during critical fire weather due to the lack of equipment, manpower, and supplies to do the job.

An average of 100,000 fires still burn each year, 97 percent of them man-caused.

New cooperative fire control programs are being started in Wyoming and Alaska which will extend coverage to 48 of the States.

Water—Priceless Natural Resource

A bigger population, intense land use, and expanding industry all are requiring more water each year. On national forests the rehabilitation of lands denuded by fires is receiving special attention to safeguard the water resources. Work was done on about 50,000 acres of burned-over lands eligible for emergency treatment under Section 216 of the Flood Control Act of 1950. In addition, some 9,000 acres of commercial and 60,000 acres of noncommercial forest land burned over in 1959–60 received treatment, including tree planting, grass seeding, channel clearing, contour trenching, gully control, and road-bank stabilization.

On State and private lands work continued on 7 flood prevention projects authorized under the Flood Control Act of 1944. During the year 57 million trees were planted on 63,000 acres of eroding and flood-producing land. Since 1953, 207,065 acres of such lands have been planted to trees.

Under Public Law 566, since its inception in 1954, the Forest Service working with State foresters, Soil Conservation Service, and local sponsors planned forestry improvements for 62 authorized projects. Since 1953 emergency flood prevention measures were applied to 47 burned-over areas, involving seeding grass and mustard to 342,000 acres of both national-forest and non-Federal lands.

Through watershed research, we continued to seek better ways of protecting, managing, and enhancing this vital resource.

Wildlife

More than a half million big game animals—deer, elk, bear, and bighorn sheep—were taken by hunters from national forests during the year, along with smaller game and fish. Hunting and fishing in national forests, on a rapid increase in recent years, accounts for a fourth of all recreation visits.

Wildlife habitat on 70,000 acres of national forest land and 92 miles of fishing streams was improved during the year by cooperative work with States. About 200 small water developments for wildlife and 102 forage study enclosures were constructed. In addition, habitat was improved on 2 million acres, by keeping in mind the needs of wildlife in the regular management activities such as timber, range, and watershed work.

Forestry Aid to Other Countries

Requests to the Forest Service for advice and technical services continued to increase, from both bilateral and international programs. Under contract with the International Cooperation Administration, selected forestry programs were carried on and various services provided, such as training of foreign nationals in this country. For example, 197 study programs were prepared during the year for forestry participants from 48 countries.

Highlights of FS Progress, 1953–60

The *Fifth World Forestry Congress* held in Seattle in 1960, where 2,000 delegates from 65 countries gathered, carried the multiple use management concept to the world.

The Multiple Use-Sustained Yield Law of 1960 gives a firmer statutory basis for full development of all national-forest resources to serve the American people. Already set up on that firmer foundation is *The Program for the National Forests*. a long-range blueprint for these public lands.

National forest administration has moved from a custodial to a truly management stage. *Operation Outdoors* was started and is moving ahead. *The National Forest Recreation Survey*, nearing completion, will give a realistic evaluation of the recreation picture on forest lands.

Marked advances were made in growing more timber, planting more trees, especially on private lands; in more intensive management of national forests to raise allowable cut and the amount harvested. Annual timber harvest on these lands has almost doubled since 1953. The most thorough study ever made of the overall national timber situation was published in 1958: *Timber Resources for America's Future.* Forestry is playing a major role in the Rural Development Program. Research has been broadened with more funds available, to undergird the general forestry advances.

Following is a statistical picture of progress in forestry, 1953–60:

	1953	1960 [1]	Percent increase
Timber harvested (billion board feet)	5. 1	9. 3	82
Annual allowable cut (billion board feet)	6. 9	11	59. 4
Gross FS receipts	$76, 042, 000	$148, 000, 000	95
Returned to States (25 percent of NF gross)	$18, 865, 637	$35, 600, 000	89
Grazing receipts	$4, 889, 679	$4, 486, 550	[2] 8
Recreation visits (total)	35, 403, 050	94, 000, 000	166
Family camping units (existing)	41, 825	50, 711	21
Hunter and fisherman visits	9, 965, 000	20, 139, 000	102
Wilderness visits	408, 300	564, 700	38
Acres reserved as wilderness	13, 768, 000	14, 660, 000	6
Access roads existing (miles)	117, 200	153, 200	31
Federal expenditures forestry research	5, 416, 000	17, 421, 000	222
Trees planted (all lands)	477, 407, 000	2, 080, 122, 000	336
Woodland owners assisted	32, 474	76, 546	136
Number of fires (all lands)	154, 342	104, 662	[2] 32
Acreage burned (all lands)	2, 851, 455	2, 578, 151	[2] 10
Acres under organized fire protion	586, 220, 000	761, 025, 000	30

[1] Some figures refer to fiscal year 1960; others referring to calendar year 1960 are close estimates.

[2] Decrease.

INVESTMENTS IN BETTER RURAL LIVING

Rural families face great adjustment problems in a rapidly changing economy and society. The Cooperative Extension Service is helping families make these adjustments as smoothly and quickly as possible.

Cooperative Agricultural Extension Service

As a result of extensive changes in their farming system, the A. D.'s of Minnesota have doubled their farm income in the past 4 years.

In 1955, dissatisfied with the progress they were making in farming, the A. D. family asked for Extension's assistance through its Farm and Home Development program. Extension agents helped the family carefully analyze the situation and develop plans to improve it.

Major changes made since that time include: Eliminating a 12-cow dairy enterprise, nearly doubling the number of swine, and expanding the beef cattle from 10 to 65.

The improved crop and soil management, and new livestock and feeding system increased income dramatically. In 1957, the A. D.'s were able to buy the farm they were operating. They have added to their farm equipment and now own a new tractor with front-end loader, picker, planter, harrow, hay crusher, and unloading wagon. They are one-third owners of a hay baler.

In addition, their new farm home—an early goal—is now a reality.

The A. D.'s are sold on the Farm and Home Development assistance, so much so that they pay $60 annually to help pay the cost of keeping an agent in their county.

Extension carries out extensive educational programs in agriculture, home economics, 4–H, and related subjects through a partnership with the U.S. Department of Agriculture, State land-grant colleges and universities, county governments, and local people.

The Federal Extension Service leads and coordinates educational work of the Department and provides national leadership in developing and carrying out extension educational programs in the States and counties.

During calendar year 1959, county extension workers assisted 13,292,000 families in adopting better farming and homemaking practices, 7 percent more than in 1958 and 29 percent more than in 1956. Extension is providing more and more assistance to nonfarm families in such things as gardening, landscaping, and consumer buying.

Farm and Home Development

More farm families are asking Extension's help in acquiring managerial skills and knowledge needed to cope with modern-day farming and the dynamic changes taking place in agriculture.

Extension is tackling this adjustment problem through the Farm and Home Development program—an intensive educational method which considers the entire family as a unit rather than considering farm and home problems separately.

In Farm and Home Development work, Extension assists families in analyzing the potential of their farms for achieving desired levels of living and other goals the families desire to meet. Also, it shows them how to keep records needed to analyze and solve management problems.

Approximately 144,000 farm families are taking advantage of this intensive counseling in making sound adjustments to changing economic conditions. Of these, 70,000 are now well along in the process of completely evaluating their resources and making needed adjustments. Another 74,000 families received assistance with one or more major problems of farm and home planning.

> A study of extension work with 12 Minnesota families indicates the effectiveness of Farm and Home Development as a teaching method. The families increased their average net farm income 76 percent over a 5-year period. They spent $40,500 more on farm purchases in their community in 1958 than they did in 1954; and $10,000 more for household and personal goods and services. They paid $3,600 more in Federal taxes and $500 more in State taxes. The cost of the total extension time spent with these families in 5 years was more than paid for by the extra taxes the families paid in 1 year. And their higher earning power should continue indefinitely.

Youth Work

Through its 4–H Club program, Extension in calendar year 1959 worked with a record 2,301,722 members of 94,206 organized 4–H Clubs. Of these young people, 55 percent came from farm homes, 27 percent from rural nonfarm homes, and 18 percent from urban homes.

While carrying out its established programs such as production efficiency, management, marketing, homemaking and citizenship projects, Extension has been revising its overall 4–H Club program to meet changing needs. This has included getting more basic science in the 4–H programs, and more emphasis on career exploration.

The science program was further developed at the National Conference on Science in 4–H Club Work sponsored in 1959 by Extension and the National Science Foundation. State and Federal Extension em-

ployees and scientists from various fields pooled their ideas on the subject.

Career exploration has been getting more emphasis because (1) many of the boys now living on farms and ranches may not find the opportunity to farm when they grow up, and (2) rural young people do not have the counseling and guidance facilities available to urban youth.

Youngsters taking part in career exploration learn about the current farm situation, self analysis, nonfarm job opportunities, jobs requiring college degrees, jobs requiring less than a college degree, and how to prepare for a job interview.

Family Living

In 1959, home economics extension workers helped approximately 8,452,636 families solve home and family living problems—a 13-percent increase over 1958. Around 16 percent were reached through organized home demonstration groups; 84 percent assisted were outside of such groups.

Family economics is one of the most vitally needed and fastest growing areas of emphasis in home economics extension work. Of increasing concern are: Money available for family living; how to provide for financial security; and when and how to use credit.

The period 1953–58 brought a 125 percent increase in the number of families adopting extension recommended practices in family economics. During the same period, the number of families assisted specifically with family financial planning increased by 150 percent. In Florida, the increase was 395 percent. The Federal Extension Service has been providing leadership and training schools for State specialists and county home demonstration agents who in turn help families make the best use of financial resources.

The areas of family relationships and child development showed the second largest increase in number of families assisted. Extension workers considered this trend heartening in view of the high incidence of mental illness, juvenile delinquency, divorce, and personal adjustment problems in the country.

New Agricultural Technology

The rapid adoption of new technology by farmers has been an important factor in providing large stable supplies of food in increasing variety. And though the quality and quantity of food has gone up, consumers actually spend a smaller percentage of their incomes for food.

One technique helping to make a plentiful supply of wholesome food available has been the extensive use of agricultural chemicals. Many such chemicals are used today in all phases of food production, processing, and marketing. These include chemical fertilizers, insecticides, and weed killers; antibiotics, antiseptics, and preservatives; feed additives, fumigants, fungicides; and others.

Last year, extension workers received about 10 million calls for assistance in insect control alone. Much of this work was concerned with helping growers control pests effectively—yet at the same time avoid undesirable residues. Extension also teaches safe handling and use of pesticides through the 56,000 boys and girls enrolled in 4–H entomology projects.

Consumers are demanding more lean and less fat in beef—with no loss of tenderness, juiciness or flavor. Extension has played an important role in helping producers "tailor" their cattle to satisfy market demands.

Research findings are used in developing practical methods of testing the performance of cattle as to growth rate, efficiency, and carcass quality. Extension recommends performance testing as a method of selecting breeding animals that transmit desirable traits to a high degree.

Extension has helped get on-the-farm performance programs under way in 43 States. As of January 1, 1960, a total of 3,369 herds representing 257,413 brood cows were enrolled in this program. To provide for servicing this rapidly expanding program, Extension is helping cooperative producers organize State beef cattle improvement associations. These associations now operate in 17 States.

Safety

Although the number of fatal accidents have been reduced, the disproportionate number of such accidents to farm people is still a problem. Agents in 3,023 counties reported they enlisted 97,974 volunteer leaders to help them train more than 2 million farm families and a million 4–H Club members in safety and fire protection practices.

Marketing

Extension programs in marketing and utilization of agricultural products are being adjusted to better meet the changing situation, problems, and needs of farmers, marketing and processing firms, and consumers.

Increased emphasis is being given to encouraging the application of marketing research findings. The purposes are to reduce costs of marketing, expand markets for agricultural products, and develop a better understanding of the marketing process on the part of farmers, consumers, and marketing firm management. Information based on research results is provided to farmers, processors, distributors, and consumers who make decisions on assembling, processing, distributing, and purchasing of food and fiber products.

The Federal Extension Service has been inventorying marketing and utilization research that can be applied to each major commodity or marketing area. Several pilot educational programs have been developed to assist groups that distribute, process, and use food and fiber products.

576922—60——6

A lumber business in North Carolina was ready to liquidate because of financial difficulties. The Extension forestry marketing specialist studied the operation and found the plant to be basically solid. He felt that with one major and several minor changes the plant could be made to produce efficiently and economically. Management adopted his suggestions and the plant is again in operation. It is worth an estimated $400,000 annually to the local people and the owner was able to avoid a possible liquidation loss of $50,000.

Consumer Marketing

Consumer marketing programs designed to help consumers understand economics and use this information to make intelligent purchases are now being conducted in 40 States and Puerto Rico. Marketing specialists also point out changing needs and wants of consumers to those engaged in producing and marketing. Consumer marketing personnel work with other extension, research, and teaching persons, as well as with State and local producers and trade organizations.

Public Affairs

Extension public affairs personnel are conducting educational programs on such widely divergent issues as zoning laws, taxation, farm policy on a national level, and foreign agricultural trade.

With expanding exports of some commodities such as wheat, cotton, and tobacco, it is important that U.S. producers and exporters understand foreign trade policy in relation to domestic farm policy.

How this responsibility in the area of foreign agricultural trade policy is carried out can be seen in the recent foreign market study tours sponsored by Extension and Foreign Agricultural Service.

Extension economists from 21 States formed 3 teams; 1 team touring Europe; another, the Far East; and the third, Latin America. On return, they pooled their knowledge and are now in the process of passing along this information to producers. Some of the things being emphasized at meetings and through mass media are the importance of better quality, better packaging, better servicing and financing of export sales in expanding export volume.

The Missouri Extension economist on the tour reports that the information has been meeting with real interest and enthusiasm. As of February 1960, he had presented some phase of the study tour material at 60 State, district, or local meetings—with representation from every county in the State. In addition, he has used the material for television programs, in radio tape transcriptions for use throughout the State, and in news stories.

Rural Development

Much of Rural Development hinges on resource use, and community and area improvement projects. Farmers, business, and civic leaders,

and representatives of farm organizations and government agencies work together as a team to help make the most of available resources.

In its role as educational leader, Extension assists people in identifying resources that will help solve problems, arranges situations which bring the problems and resources together, and furnishes administrative services to county and State committees.

Highlights of Cooperative Extension Service, 1953–60

In recent years, the Cooperative Extension Service has redirected its programs to help rural people adjust to the rapid changes in the Nation's economy. This effort culminated with a study of the scope of Extension work. All States cooperated in the 2-year, comprehensive study of extension programs, policies, and objectives published in 1958.

Several new programs and concepts have emerged, including Farm and Home Development; Program Projection; and increased emphasis on marketing and public affairs education.

Farm and Home Development. This intensive method of teaching modern management principles began in 1954. At present, 144,000 farm families are receiving this type assistance.

Program Projection. Extension personnel help county program planning committees inventory their present and potential resources—human, soil, water, credit, technical service, and various institutional resources. Extension workers then help local people make a careful appraisal of potential markets and, in some cases, explore the industrial and recreational potentials for adding to the income of farm people. Over 1,500 counties have made substantial progress with this effort since it was launched in 1955.

In 1959, Extension assisted more than 13,292,000 families in adopting better farming and homemaking practices. This contrasts with 8,313,429 families assisted during 1953.

Extension's 4–H Club program increased last year to 2,301,722 members, a quarter of a million more than in 1953.

Voluntary local leaders play an important part in carrying out Extension's educational programs, and, in turn, helping others to increase their ability to make decisions and cope with new problems as they arise. Some 1,276,750 different local leaders were actively engaged in forwarding some phase of the extension program in 1959, compared with 1,151,627 such leaders in 1953.

Rural Development Program

The progress of the Rural Development Program during fiscal 1960 was greater than in any similar previous 12-month period. This program is now widely accepted as a major national approach to helping

rural people improve farming, obtain off-farm work, and build better communities.

By September 1960, 30 States and Puerto Rico had Rural Development work planned or under way in 262 counties. Twenty-eight of these counties were designated as operating centers for area programs involving two or more additional counties. An additional eight States were making plans to inaugurate the program.

Federal agencies and departments cooperating in the Rural Development Program moved to implement Executive Order 10847 (October 12, 1959) formally establishing the Committee for Rural Development Program "to consolidate its accomplishments and to provide more formal Federal organization. . . ."

Among the important steps taken:

Coordinating groups were set up within and among the various Federal departments, and a regular schedule of meetings established.

An official with broad experience in local Rural Development work joined the Secretary of Agriculture's staff to assist the Federal committee.

A $3 million increase in funds for educational work connected with the Rural Development Program was requested in the 1961 Department of Agriculture budget.[1]

Directors of State extension services, agencies with a major leadership role in the program, approved a policy of making use of Rural Development organization and techniques in helping low-income rural communities. In June 1960 State extension officials, including 19 directors, 9 associate directors, and 9 assistant directors, held a 5-day in-service training conference on Rural Development.

Eleven regional meetings were scheduled throughout the Nation to assist State and local leaders to plan future Rural Development activities.

According to reports submitted by State committees which are coordinating the Rural Development Program, towns, counties, and areas participating in the program recorded impressive concrete results in the period 1959–60.

Industrial growth, new businesses, and service industries have added nearly 18,000 full or part-time jobs. These include a whole range of

[1] Following hearings on the Department of Agriculture and related agencies appropriations for fiscal year 1961, both the House and Senate Appropriations Committees reported that some attention should be given to expanding the Rural Development Program. A $3 million increase was authorized to strengthen general cooperative Extension Service work, including support of the Rural Development Program in some States planning to inaugurate this activity. The previous appropriation of approximately $2.7 million for direct administrative, Extension, technical, and research services connected with the program was also authorized for fiscal year 1961.

enterprises in such industries as clothing, metal working, wood, paper, chemicals, food processing, and many others.

In the 6-county Rural Development area of Missouri, for example, some 1,300 jobs will result from industry expansion, with an increased payroll of $2,750,000. Local leaders, banks, and the U.S. Small Business Administration are supplying needed capital. In one county, leaders formed an industrial development corporation, raised $100,000, purchased land, and are now building a small factory.

Markets for products of small and low-income farms were again expanded in fiscal 1960. New processing plants were built in a number of Rural Development Program areas, additional co-ops were formed, and market promotion emphasized. As an illustration, a local vegetable market in the Beckley, W. Va., area, serving three program counties, was reorganized, and a 4-year plan developed to provide enough produce for an efficient operation. In Puerto Rico, Rural Development has doubled sales of a local produce market built previously by the Commonwealth's Department of Agriculture. Some 150 farm market improvement projects were started in program areas during fiscal 1960.

Farm Enterprises. Twenty-two States report that more than 7,000 small and low-income farms benefited from new crops and increased crop production in fiscal 1960. Illinois' two-county program area is a good example. With the assistance of Rural Development specialists, farmers have organized poultry producers associations and groups to improve cotton production and dairy and beef herds.

Forestry and Conservation. States report a total of 130 major projects to promote better forest management, such as in northern Minnesota, where Rural Development leaders organized a program to help 40 small farmers growing Christmas trees produce and market a better product.

Twenty-six States reported soil mapping completed on 8,660 farms. And some 8,000 farmers in 24 States made better use of the Agricultural Conservation Cost Sharing Program due to local adaptation of this program and the educational work of Extension, ASC committees, and SCS personnel.

Youth. Community efforts to bring about better training and job guidance for high school boys and girls and young farm families are becoming a significant part of the program in some areas. Eighty-one counties report organized "Stay-in-School" campaigns. Thirteen States report projects started in fiscal 1960 to improve vocational skills of young adults.

Tennessee's Rural Development counties are outstanding. Before the program started, none of the schools in these five counties offered vocational instruction in industrial and service skills. Now such classes are available in three counties; and aptitude testing of school children and counseling in two.

Health Services and health programs, as in past years, came in for major attention. A total of 517 projects are reported, including hos-

pital building, community sanitation, and education work. Bond issues have been passed in several counties to finance clinics and hospitals, a result of Rural Development committees "selling" the idea to voters.

In Crawford County, Ind., some 300 local people volunteered their help in a countywide health study. This project has renewed interest in health improvement, encouraged the assistance of health agencies, and proved useful in industrial promotion of the area.

Community Clubs. Nearly 240 rural communities were organized by program workers in 25 States during fiscal 1960. These communities selected leaders and formed clubs to promote better living through farm improvement, education, and interest in neighborhood progress. Program leaders in Mississippi's Tippah County, for example, worked with community clubs to raise funds for industrial expansion in the area.

In many program areas, a general feeling that nothing can be done about economic ills has been replaced by a new awareness of community resources, community strength, and a belief that living conditions can be bettered.

Rural development, taken in its broadest sense, is a program that works, a program that is helping the most disadvantaged farm families, whose needs have largely been ignored in the past.

Programs to stabilize the prices received for farm products are of little real value to these families. They simply do not produce enough. Two hundred percent of parity would not give an adequate income to a farmer with a 10-cow, grade-C dairy operation, a quarter acre of tobacco, or a few acres of cotton. Yet small farmers like this with only a small amount to sell in the markets of the Nation still make up the majority of farm operators. About 55 percent of our farms produce less than 10 percent of total marketed crops.

The age-old problem of chronic low incomes in depressed rural areas need not continue to exist. The way to more prosperity has been demonstrated. A firm foundation has been laid for helping solve the problems of low incomes and rural poverty, and thereby we have taken a major step toward solving the Nation's farm problem.

Highlights of RDP Progress, 1954–60

The record of achievement and progress of the Rural Development Program, since it was first proposed in 1954, has been remarkable.

In 1956, when the program was just getting under way, less than 25 rural counties in only a few States had begun this work on a formal, organized basis. By 1960 some 262 counties in all major sections of the Nation had the program under way or in the planning stage. By July 1961 we expect the program to be operating in at least 350 counties in 38 States and Puerto Rico.

In 1956 the program had generated few concrete results. In 1960 participating States reported more than 2,000 projects to improve farms, build new industries, and expand existing ones, help youngsters obtain the trainng they need, improve health and accomplish other aims.

In 1956 there was little understanding in the Nation of what was to be accomplished through this new approach. Since then important national organizations have publicly supported its aims. Congressional statements and reports have expressed approval, while hundreds of newspapers, magazines, and radio-TV stations, many of them major national outlets, have featured stories on the program.

Following issuance of Executive Order 10847 in October 1959 formally establishing the Federal Committee for Rural Developmenet Program, Federal and State agencies have moved to provide more leadership and technical guidance in support of local projects and plans.

In these few years, Rural Development as an educational process has brought about wide recognition that farm improvement alone cannot solve the problem of low incomes in rural areas. We must balance improved agriculture with industry development and build the kind of community facilities that will help rural people—especially younger people—prepare for the opportunities and challenges of the 1960's.

The Rural Development Program will take its place as one of the most beneficial and important programs of recent years. Through this approach, we have broken new ground. We have developed new patterns of cooperation between public agencies and local private citizens. We are doing something effective to help some of the Nation's most disadvantaged people.

Farmer Cooperative Service

The Department's Farmer Cooperative Service continued during 1960 its efforts to encourage greater efficiency, better member relations, wiser application of the principles of economic integration, improved management practices, and general all-round better performance by cooperatives.

Efficiency Stressed. A study of the operating costs of 23 egg marketing cooperatives in the Northeast, the North Central States, and the West, showed a wide range in labor costs. On the average, labor comprised 42.5 percent of total costs. With this study as a yardstick, several cooperatives have taken steps to reduce their expense of doing business.

Many dairy associations are changing to bulk receiving. An analysis of the plant records of a midwestern cooperative to determine costs and the various problems that develop as dairies shift from one type

of handling to the other, is proving helpful to other dairy organizations in avoiding costly pitfalls during the transitional period.

Information compiled on the operating practices of 31 fruit and vegetable marketing cooperatives in the Northwest and the Central States is also aiding cooperatives seeking to improve marketing practices.

FCS continued its annual report on grain regionals, made further detailed studies of the operations of livestock marketing cooperatives, and completed a series of credit and inventory studies that are being used by farm supply cooperatives to improve performance in this area.

Member Relations. The Farmer Cooperative Service and the American Institute of Cooperation sponsored four regional membership relations conferences in 1960, emphasizing practical methods of building better understanding between associations and members, helping members realize their responsibilities, and training employees.

Economic Integration. Much FCS work is currently designed to help farmers build the kind of cooperatives they need to get for themselves the advantages of economic integration.

Continuing its studies of the extent and possible benefits to farmers of economic integration through their cooperatives, FCS issued reports on integration in the dairy and petroleum fields and continued a series of intensive studies of cooperatives successfully integrating services and activities.

Management Improvement. FCS continued in 1960 to call attention to good management practices through studies and reports. In cooperation with State Cooperative Councils, Land-Grant Colleges, and District Banks for Cooperatives, FCS arranged management short courses in 1960 in accounting, member relations, public relations, director-manager relations, and the feasibility of combining marketing with supplying feed and fertilizer. Some 500 key cooperative officials attended the courses.

FCS staff members served as instructors in these courses as well as in others arranged specifically for bookkeepers of local grain cooperatives and attended by another 125 employees.

Among other activities FCS continued to help fruit and vegetable growers evaluate bargaining as an available marketing technique.

FCS cooperates in free world exchange of information programs by planning training for foreign nationals interested in farmer cooperatives, agricultural credit, and related subjects. During fiscal 1960, FCS staff members assisted some 550 foreign visitors in obtaining such training.

Highlights of FCS Progress, 1953–60

The volume of business transacted by farmers through their marketing, purchasing, and related service cooperatives increased from $9.5 billion in fiscal 1954 to $10.7 billion in

fiscal 1958, the latest year for which complete figures are available.

Farmers' ownership equities in their cooperatives have increased from $2.7 billion in 1953 to $4.1 billion in 1960.

From 1953—when Farmer Cooperative Service was established as a separate agency within the Department of Agriculture to provide research findings, advisory service, and educational assistance to cooperatives—through fiscal 1960, the Service has prepared and distributed nearly 350 reports and publications to help cooperatives improve their operations.

This material, together with the monthly magazine, News for Farmer Cooperatives, represents a storehouse of cooperative information, which farmer organizations use to measure their own operations and bring about improvements.

MARKETING OUR AGRICULTURAL ABUNDANCE

During the past several years the services of the Department of Agriculture to help farmers market efficiently have been made more nearly equal to its services in helping farmers produce efficiently.

In fiscal 1960 we continued and expanded still further our efforts to increase consumption of farm products at home and abroad.

Agricultural Marketing Service

These following functions were carried out by the Agricultural Marketing Service:

Food Distribution Program

Over 20 million persons in the United States benefited from donations of surplus foods under the Direct Distribution Program in fiscal 1960. These included 14.6 million school children, 1.5 million persons in charitable institutions, and 4.3 million needy persons in family units. Federal surplus foods were also used to help meet emergency food needs arising out of 12 major natural disasters.

The National School Lunch and Special Milk Programs continued to expand in 1960. During the peak month of participation, 12.8 million children ate lunches with milk under the school lunch program—a gain of about 7 percent over the peak month of the preceding year. Over 2.1 billion complete meals were served under the program.

Participating schools purchased approximately $540 million worth of food in local markets during the 1959–60 school year, exclusive of the value of food commodities donated by the USDA. Federal cash assistance funds financed $93.8 million worth of these payments, State and local sources the remainder. Thus each dollar of Federal cash assistance resulted in the expenditure of over $5.75 for food in local markets throughout the country.

School lunch programs continued to receive strong State and local support. Including payments made by children for lunches, a total of about $780 million was contributed to the programs from sources within the various States in 1960. Such contributions totalled $709 million in 1959.

The National School Lunch Act provides that the Department administer the program in those States where the State educational agency is prohibited by law from disbursing funds to private schools. In 1960, AMS administered the program in 2,684 private schools, serving lunches to 554,957 children.

The Special Milk Program continued to encourage increased milk consumption by children in public and private schools, child-care centers, summer camps, and similar nonprofit institutions through reimbursement payments that enable them to serve more milk at lower cost. In fiscal 1960, children in over 83,000 schools and institutions consumed nearly 2.4 billion half-pints of milk under the program, in addition to the 2.1 billion half-pints consumed under the National School Lunch Program.

Industry requests for merchandising assistance under the Plentiful Foods Program continued at a high rate during the 1960 fiscal year. In addition to the regular monthly program to focus attention on foods in plentiful supply, there were 8 special food campaigns during the year, including two separate drives on cranberries.

> The cranberry situation of 1959–60 presented the Plentiful Foods Program with a new and unique marketing problem. Just prior to the Thanksgiving marketing season, a few lots of cranberries were found to contain residual quantities of a toxic weed killer. Warnings were issued to the public by the Food and Drug Administration that additional lots might contain the chemical. While substantial quantities of cranberries were hastily inspected and promptly found safe for sale and consumption, the net effect of the situation was to disorganize the market just prior to the major marketing periods.
>
> A Plentiful Foods Program was quickly aimed at restoring consumer confidence in the product and reactivating the market. Special two-color fact sheets were issued to the grocery and food service trades, and a campaign of intensive trade contacts followed. Trade response was prompt and energetic, and sales moved upward, though falling far short of normal movement.
>
> Assistance through Plentiful Foods listing, special informational releases, and trade contacts was continued for several months after the November special promotion. Then a second, large-scale promotional event followed in April, just prior to the Easter holiday. This campaign was quite successful and sales were above average for the period.

Federal Milk Marketing Orders

About half the population of the United States resides in the 80 marketing areas in which Federal milk marketing orders are operating. The program helps assure adequate supplies of pure wholesome milk to consumers and a minimum price to producers.

During the fiscal year nearly 43 billion pounds of milk were delivered by about 191,000 producers to handlers required to pay the Federal order minimum prices. The value of this milk at minimum order prices was $1.8 billion.

Four new orders were issued: Great Basin, Utah; Upper Chesapeake Bay, Md.; Ohio Valley, Kentucky-Indiana; and Suburban St. Louis, Ill. The marketing areas of 11 existing orders were expanded, bringing about a program enlargement nearly as great as that effected by the issuance of new orders.

Fruit and Vegetable Marketing Agreements and Orders

During fiscal year 1960, 38 marketing agreement and order programs were in effect for fresh citrus and deciduous fruit, dried fruits, tree nuts, vegetables and potatoes. Seventeen of these programs were on fresh fruit, 7 on dried fruits and tree nuts, and 14 on vegetables and potatoes.

The farm value of the products covered by these programs reached a new high of more than $1 billion. A new program on Washington peaches was added during the year and programs on Washington-Oregon fresh prunes and Idaho-Oregon fresh prunes became effective in July 1960. At the close of the fiscal year four proposed new programs, involving Texas citrus fruits, carrots, lettuce, and onions, were under consideration.

Market News

We extended livestock market news to an increasing number of auction markets and direct buying points. An experimental Midwest area carlot meat trade report was inaugurated in cooperation with the Marketing Research Division. In Illinois, with the State providing most of the funds, a pilot market news project was started to furnish reports on livestock trading at farms, feedlots, buying stations, and auction markets.

Dairy and poultry market news reporting continued to emphasize current movement and disappearance of product, such as weekly commercial poultry slaughtered, weekly commercial shell egg movement off farms, and weekly movement of butter and eggs into retail channels. As the volume of wholesale trading in terminal markets continues to decline, market reports on such trading are being replaced with reports on prices at farm, at shipping point, f.o.b. at terminal market, at warehouse, and to retailer.

Expansion of shipping point information and expanded coverage highlighted changes in the fruit and vegetable market news service.

Tobacco market news services were furnished to all auction mar-

kets and the tobacco trade, and the Naval Stores market news service prepared daily reports.

A new weekly cotton quality report was started showing the grade and staple length of cotton classed for producers during the week, and for the season to date, in some 35 classing office territories. It provides cotton producers and members of the trade with information on the quality of cotton available in each classing office territory.

Agricultural Estimates

During 1960 we improved our crop, livestock, and price reports, all helpful guides to farmers, by modernizing questionnaires and survey procedures.

Here is how one poultry farmer uses crop reports:

> Mr. J. M. K. of Millersburg, Pa., averages about 4,000 birds a year and markets about 970 dozen eggs weekly. He says: "To keep ahead in this competitive egg business, I've got to keep my four hen houses full. I can't alter my plans as much as I'd like to, but I can take advantage of situations I know about from crop reports." By keeping a watchful eye on chick placement reports, Mr. K. has been able to spot in advance potential production highs and lows. Since he grows much of his own feed, he studies other crop reports to gauge feed availability and adjust his own planting plans.

Significant advances in agricultural estimates activities were made in 1960.

Plans were completed for launching cooperative crop reporting services in Alaska early in fiscal year 1961. (The office was established in conjunction with the State Division of Agriculture at Palmer on August 1, 1960.) Agricultural estimates work thereupon becomes operative in all 50 States.

We gave extensive technical assistance to the U.S. Bureau of the Census in its 1959 Agricultural Census enumeration and carried the primary responsibility for the completion of the Horticultural Specialties Census. We also provided the basic price information used by the Census Bureau to evaluate farm product sales and production.

We expanded the cattle-on-feed reporting program by adding 5 more States to the quarterly report, beginning monthly reports in 2 States, and providing January 1 estimates for 11 Southeastern States. A monthly report was started covering in-shipments of stocker and feeder cattle and sheep for 8 Corn Belt States.

During the year, many of the procedures previously developed in a seven-State test for improving egg production estimates were adopted in eight other States.

Coverage of sales and receipts of fluid milk and cream was greatly expanded in our reports, and several additional States agreed to lend

special assistance in making the annual survey of manufactured dairy products.

The fiscal year saw the first issue of a series of annual publications presenting all available data for the previous calendar year on prices received and paid by farmers.

We conducted the 20th biennial survey of refrigerated warehouse space—information which has become increasingly important in defense planning.

The Research and Development studies continued to yield promising results upon which to base an enlarged operating program for improving agricultural estimates and reports.

Under our program for foreign visitors and trainees, the Agricultural Estimates Division aided in scheduling the training and technical contacts of 866 persons from 72 countries during the fiscal year.

Agricultural Economics

Continuing our research in the farm income field, we published studies on *Dollar Volume of Agriculture's Transactions with Industry*, and *Farm Capital Gains and Losses*.

We found average capital gains in farming in 17 of the past 20 years. Only 1949, 1952, and 1953 showed declines in the average value of total farm assets after subtracting net investments. For the 20 years since 1939, increasing capital values in agriculture, exclusive of net investments in farm assets, averaged nearly $1,000 per farm per year. Thus, capital gains in agriculture, realized and unrealized, averaged 43 percent as large as operators' net income from farming operations.

We continued to project supply and demand conditions for agricultural products. Economists are cooperating in preparing 1975 projections for the western region, including the labor force, employment by major industries and income by distributive shares, as well as demand requirements for the farm products of the region. *Consumption of Processed Farm Foods in the United States*, published in 1960, indicates that over the next 15 or 20 years purchases of processed food may increase by about 18 percent compared with about 13 percent for unprocessed foods.

The rapid increase in the number of people classified as farm residents, but not dependent to any substantial degree on farming for their living, has made necessary a major redefinition of the farm population. To meet the definition of "farm residence" now requires the production for sale of at least $50 worth of agricultural products annually from a place of at least 10 acres, or $250 if less than 10 acres. Revised farm population figures, based on the new definition will be at a substantially lower level than the present figures.

Findings from the third report in a series of studies of the impact of industrialization on rural communities in the U.S. showed that about one-fourth of the plant workers were farm operators.

Results of a national survey on the participation of farm youth in higher education showed that only about one-third of farm high

school seniors, compared to one-half of all other seniors, planned to attend college in 1960.

Inspection, Grading, and Classing

Widespread consumer demand for grade-labeled poultry led to large increases in the volume of poultry grading. More than 1.8 billion pounds of chickens and 800 million pounds of turkeys were graded—increases of 52 percent and 12 percent respectively over fiscal 1959.

Poultry certified as wholesome under the Poultry Products Inspection Act reached a total of nearly 5 billion pounds—about 80 percent of all the poultry sold off farms. At the end of fiscal 1960 inspection service was being provided to 548 slaughtering and eviscerating plants and on July 1, 1960, it was extended to 343 further processing plants previously exempted under the law.

As of June 30, 1960, we were providing meat grading service to 1,191 meat packers and handlers. The volume graded was comparable to the previous year's total except for a 400 million pound increase in beef graded, paralleling a rise in the volume of beef produced.

We extended meat grading for the first time beyond the continental limits of the Nation, when grading was inaugurated in the new State of Hawaii in November 1959.

Because of the successful reduction of CCC stocks of butter, cheese, and nonfat dry milk, the volume of dairy products inspected and graded decreased. Grade labeling of consumer packaged butter, however, was up 14½ percent from the previous year.

Dairy plant inspections increased 7½ percent, including 430 at butter manufacturing plants, 501 at cheese factories, and 667 at dry milk manufacturing plants. These inspections help management locate deficiencies in plant operations and so aid in improving the quality and stability of manufactured dairy products.

With total U.S. grain exports continuing to increase, inspections of all grains for export totaled 973 million bushels for the 1959 calendar year, compared with 806 million in 1958 and 779 million in 1957. Inspections of all grains for export the first 6 months of 1960 totaled 519 million, compared with 475 million for the similar period a year earlier.

We inaugurated a special service to provide for showing "cleanout" statements on certificates for export shipments of wheat, effective June 20, 1960. These statements on certificates will permit exporters to contract to meet the "cleanout" requirements of foreign purchasers and help exporters meet foreign competition.

We established facilities for the inspection of United States grain moving in export through Canada at Montreal and Baie Comeau, Quebec. Inspections for exports through the Seaway in calendar year 1959 totaled nearly 139 million bushels, compared with less than 30 million in 1958. Inspection of corn at Great Lakes ports totaled 42.5 million, oats 31.9, barley 25.1, soybeans 18.4, wheat 12.6, and rye

0.5 million. Despite a strike at Chicago docks, and other retarding factors, January through June 1960 inspections for exports totaled 50.5 million bushels, compared with 50.6 million for the same period a year earlier.

Cotton classed for farmers under the Smith-Doxey Act continued to increase during the 1959–60 season. Ninety-five percent of ginnings was classed for farmers under this program. Increased use of the classing service was particularly evident in areas with many small farms where marketing information is generally needed.

Inspection service was maintained on all of the 177 established tobacco auction markets, comprising 920 different warehouses. The volume of tobacco inspected totaled slightly over 1.8 billion pounds—100 percent of all tobacco sold at auction. In addition, 182 million pounds were inspected for growers and the trade under permissive inspection service.

Under the naval stores inspection services a total of about 191,000 drum equivalent of rosin were inspected and graded, and 4.3 million gallons of turpentine were inspected and certified.

Inspections of fresh fruit and vegetable products declined slightly from the record high level a year earlier, due primarily to adverse weather in the southeast during the winter months and reduced production of potatoes. The volume of processed products inspected, however, increased substantially to a new record high.

In view of the hazards of pesticide residues, testing of end products for contamination was initiated in cooperation with Food and Drug Administration and the industry.

Standardization

At the request of agricultural industries, in which nationally uniform measures of quality facilitate trading, we pushed forward in revising and developing standards.

At the close of the fiscal year, 292 U.S. grade standards were in effect on fresh and processed fruits and vegetables and other assigned products.

A study of the current cotton crop in relation to the Universal Cotton Grade Standards was continued. This study was made necessary by rapid changes in methods of harvesting and ginning. The industry and trade generally requested that no changes be made in the present physical grade standards prior to the regular 1963 Universal Cotton Standards Conference.

A new "controlled quality" egg grading program was put into effect, providing government certification of the quality of eggs produced and marketed under controlled conditions. Eggs meeting all requirements may be labeled "U.S. Grade AA" or with a new grade label, "U.S. Fresh Fancy Quality."

Grade standards for lamb and mutton carcasses and for slaughter lambs and sheep were revised. Reduced requirements for the Prime

and Choice grades have resulted in lower average fatness in these grades, in keeping with a general trend for leaner meat.

Work progressed on a study aimed at developing a grading system for beef under which quality of meat and yield of cuts would be identified and graded separately.

U.S. Standards for Grades of Butter were completely revised April 1, 1960.

The official standards for corn, edible beans, split peas, and rice were revised.

Regulatory Acts

Major efforts during the year to encourage greater cooperation with and understanding of the Perishable Agricultural Commodities Act met with success.

Proposed revised regulations were published in the Federal Register during November 1959 and discussed in detail with the industry at the January 1960 PACA Conference. Following appropriate modifications, the revised regulations were published to become effective August 1, 1960.

During the year 2,465 cases were closed, resulting in payments to interested parties of $1,100,000. This compares with 2,313 cases and $856,000 during the 1959 fiscal year. Increased attention was given to misbranding of produce. Spot checks on misbranding were conducted in 27 States and the District of Columbia.

To secure more effective enforcement of the Packers and Stockyards Act, we elevated the responsible agency at the end of the fiscal year from a Branch to a separate Division of the Agricultural Marketing Service.

Work has progressed rapidly on extending the jurisdiction of the Act to new areas authorized by law. By June 30, 1960, 2,115 livestock markets had been posted and 11,284 market agencies and dealers were registered with the Secretary of Agriculture.

In connection with the posting program, now virtually completed in all States except New York, scales have been tested and improvements made in weighing facilities at many livestock markets throughout the country.

Marketing Research

Efficient distribution of farm products is essential if we are to build a strong agriculture, firmly based on wider markets for the farmer, and a rising standard of living for the Nation.

Marketing economics research analyzes the cost of marketing and suggests economies in our agricultural distribution system. It provides the facts for agri-business to make sound decisions.

Marketing researchers reported that a typical supply of U.S. farm produced food cost about $1,040 per urban family at retail in 1959. Out of this, farmers received $399 or 38 percent; the remainder, $641, went to pay the cost of marketing. The total cost of marketing domes-

tic farm food products sold to civilian consumers in 1959 was $39 billion.

However, food is still a bargain. In 1922, a typical factory worker could buy from the take-home pay of an hour's work 5½ loaves of bread, 1 dozen oranges, or 3½ quarts of milk. Today 1 hour's take-home pay will buy 10 loaves of bread, almost 3 dozen oranges, or about 8 quarts of milk.

A marketing research project covering the economic characteristics of the Florida chilled citrus juice industry revealed that Florida producers of chilled orange juice increased their use of fresh oranges by 3 million boxes between 1954–55 and 1957–59. Since World War II, the rapidly changing Florida citrus industry has benefited greatly from such research-developed products as frozen concentrates and chilled orange juice.

Market development research is designed to help producers sell more food and fiber. It provides information about consumer likes and dislikes, looks at the market potential of new and established products, and weighs the effectiveness of promotional methods that may increase demand for agricultural products.

A marketing research project completed in 1960 revealed that schools provide an annual market for food of approximately $600 million. About 85 percent of this food comes from local markets, the remaining 15 percent being donated directly by the Federal Government.

Another study disclosed that only two out of every five people regularly eat eggs for breakfast. Selling the public on the need for a good breakfast would almost automatically increase the sale of eggs.

Researchers documented the promotional activities of agricultural groups—cooperatives, associations, and State departments of agriculture. These groups spent about $67 million for the promotion of agricultural products in 1958. Out of this, more than 50 percent went into advertising.

Market quality researchers estimate that the equivalent of one out of every five acres of perishable fruits and vegetables grown in the U.S. is lost because of waste or spoilage, costing millions of dollars. We are tracking down and eliminating waste caused by insect infestation and improper packaging or refrigeration. We need to know more about product quality, how to maintain it in marketing channels and how to measure it more objectively.

Our scientists recommended malathion as a safe and economical treatment for low levels of insect infestation and damage in stored grain.

Studying the effects of trimming and packaging methods on lettuce, researchers found that lettuce trimmed closely, packed in individual polyethylene bags, and stored at a temperature of 33° F. lasts much longer than that shipped the usual way.

Scientists put the atom to work in 1960 to help measure meat quality by developing a device to measure the extremely minute particles of

radioactivity in all living things. Since this radioactivity is concentrated in the fat, the new device measures fat and lean content of meat and poultry far better than other methods.

The work of *transportation and facilities* researchers has become increasingly important as the distance between producers and consumers has increased. Improvements in buildings and equipment needed to get food and fiber to consumers are necessary to hold down marketing costs.

Marketing and engineering researchers developed a design for a wholesale food center in Knoxville, Tenn., that can save about $400,000 a year in operating costs. This is the latest of a number of studies that have helped some 22 cities modernize their wholesale market facilities. The first steps are now being taken to build a new wholesale fruit and vegetable center in New York City that can save over $10 million a year.

These few AMS marketing research projects illustrate some of the benefits accruing to farmers and the U.S. public from this type of research. In the future AMS marketing research will continue to improve efficiency in our gigantic food and fiber marketing system.

Federal-State Matching Fund Program

Matching fund marketing service programs, conducted by State Departments of Agriculture in 40 States under the Agricultural Marketing Act of 1946, assist producers and marketing agencies at each level of distribution in solving their marketing problems through use of research results and adoption of improved marketing practices.

This work falls into four general fields: (1) Improving and maintaining the quality of agricultural commodities, (2) expanding outlets for agricultural commodities, (3) increasing marketing efficiency and reducing costs, and (4) assembling and disseminating marketing information. In 1960, the Agricultural Marketing Service helped 40 States plan and carry out 117 projects in these fields. In 1952, there were 30 States and 3 Territories in the program.

Here are some typical achievements under the program:

By assisting producers in adopting better sanitation and handling practices, Indiana has reduced the amount of manufacturing milk rejected by plants as undergrade from an annual rate of about 5,400,000 pounds 10 years ago to less than 2,000,000 pounds today. Increased returns to producers are estimated at over $100,000 annually.

Apple packers in Virginia have increased the use of corrugated tray packs from 500 boxes in 1952 to over 1,800,000 during the 1959–60 season. This practice, recommended by the Virginia Department of Agriculture on the basis of market tests, reduces bruising and consequent quality deterioration in marketing channels.

The Illinois Department of Agriculture, in cooperation with industry groups, staged dairy festivals, exhibits and promotional campaigns to increase sales and consumption of dairy products. Twelve dairy plants cooperating in a cottage cheese promotion reported an average

increase of 20 percent in sales during the 6-week promotion period. Nutrition programs, established in Springfield schools by the Illinois department in cooperation with school officials and teachers, are credited with bringing about a 12 percent increase in per pupil milk consumption.

A low cost apple packing and grading table developed by the New York Department of Agriculture and Markets enabled small orchard operators to double labor productivity in packing film-type consumer containers.

The Tennessee Department of Agriculture in cooperation with the Transportation and Facilities Research Division of the Agricultural Marketing Service helped poultry processors in Tennessee plan new facilities, adopt improved layouts, and increase labor efficiency. The annual saving is estimated at about $2 million.

Highlights of AMS Progress, 1953–60

The following are a very few items out of a great many that could be cited indicating facets of the progress achieved by AMS.

The direct distribution program helped greatly in cutting down the Government-held inventory of dairy products from 974 million pounds in 1953 and over 1,500 million in 1954 to only 262 million pounds at the end of fiscal 1960. Of the 262 million pounds, 243 million consisted of nonfat dry milk, practically all of which was promptly committed for known outlets.

Livestock producers now receive additional protection provided by the Packers and Stockyards Act, as amended. From 300 posted markets in 1953, the total has climbed to 2,115.

In 1953, 49 Federal milk marketing orders regulated the handling of 26 billion pounds of milk. The program now includes 80 orders, regulating the handling of 43 billion pounds of milk. More than 190,000 dairy farmers now sell in Federally regulated markets, and 86,000,000 consumers residing in these areas are assured of dependable supplies of pure, wholesome milk.

In 1953, 26 fruit and vegetable marketing agreements and orders covered about $630 million of commodities. In 1960, 38 programs were in effect, involving farm commodities worth over a billion dollars. Four of the 1953 programs have been terminated and 17 new programs inaugurated. Four new programs are under consideration.

Since 1953 a net gain of 58 additional fruits and vegetables are being reported by the market news service at various shipping points throughout the country. Market news reporting has also been improved for poultry, livestock, and dairy products.

The volume of poultry inspected for wholesomeness in fiscal 1960 totaled almost 5 billion pounds. Poultry processing plants operating under inspection number 548, compared with 254 in 1953.

Nearly 2.7 billion pounds of poultry were graded in fiscal 1960, compared with about 0.5 billion pounds in 1953. Inspection and grading of dairy products totaled 2.3 billion pounds in 1960, as against 1.6 billion in 1953. Federal grading of carcass beef increased from 21.6 percent of total production in 1950 to more than 50 percent in 1960.

The proportion of the cotton crop classed for farmers under the Smith-Doxey program increased from 65 percent in 1953 to 95 percent in 1960. The number of grade standards distributed by the Department rose from 4,500 in 1953 to 9,000 in 1960.

Highlights of Marketing Research Progress, 1953–60

We have revitalized and greatly expanded marketing research since 1953. Appropriations for this work in fiscal 1960 totaled $7.3 million—nearly double the 1953 figure.

To concentrate effort on marketing improvement, we placed marketing research and services in the newly established Agricultural Marketing Service in 1953. By June 1954, we had under way 300 marketing research projects. By 1960, the number of these projects had risen to 434, and they embraced almost every phase of agricultural marketing.

Since 1952, economies resulting from such projects have saved farmers, consumers, and distributing agencies many times the cost of the research.

Work on improved packing and handling of perishable fruits and vegetables has produced savings of over $7 million a year. Grain aeration, developed with the help of marketing research, promises savings of more than $9 million a year. This is a conservative estimate, based on the assumption that only half of the Nation's elevators use the system. Better cotton warehousing methods and handling equipment developed by USDA marketing specialists have produced savings of about $2 million a year for the benefit of farmers, shippers, and the public. Research has helped develop new terminal markets in a number of major cities, saving many millions of dollars in marketing costs and improved the quality of products that reach the consumer.

Foreign Agricultural Service

One of the brightest features in the agricultural picture during 1959–60 was the upsurge in exports. The volume of U.S. agricultural

commodities moving to foreign consumers reached a new high. The value of these exports, $4.5 billion, was exceeded only by the record $4.7 billion of 1956–57.

A large volume of agricultural exports benefits U.S. farmers, of course. But, in addition, our ability to send abroad a significant part of U.S. agricultural abundance, not only for emergency relief but also to further the long-range economic development of friendly countries, promotes the basic objectives of American foreign policy.

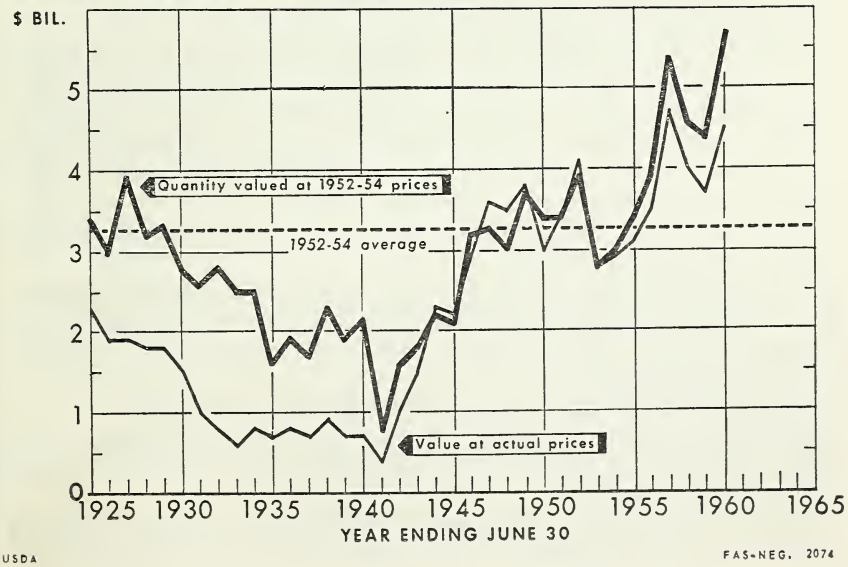
Several developments in 1959–60 deserve special comment.

Agricultural Reporting: As the year ended, there were 76 attaches and assistant attaches at 52 foreign posts. Moreover, Congress has provided for the establishment in 1960–61 of three new posts. These additions will strengthen the service rendered by the attache system in helping U.S. agriculture keep up with changing world conditions.

Using information furnished by the attaches and derived from visits by marketing specialists, the Department publishes many reports covering foreign production, consumption, crop conditions, exports, imports, tariffs, and other foreign marketing subjects. FAS also produces special studies on marketing and competition.

Market Promotion: Market promotion work was further strengthened during the year. For example, we signed "global" contracts with the Soybean Council of America calling for market development work in soybeans and oilseed products in over 30 countries. A new U.S. Feed Grains Council was formed to promote feed grain

U. S. Farm Exports Set Volume Record, Rank Second in Value, in 1959-60



use overseas. During the year 113 separate market development projects were initiated, and at the year's end over 400 projects were being carried on in 48 countries by the Department in cooperation with 59 different agricultural and trade groups.

Market development projects make use of various promotional techniques: Surveys of market potential and needs, advertising campaigns, translations and distribution of promotional and educational leaflets, studies of consumer demand, exchange visits of management and technical personnel of United States and foreign trade groups, and such promotional techniques as contests and appearances of cotton "queens" and dairy "maids."

In 1959–60, USDA participated in 20 international trade fairs, including those at Cologne, Germany; New Delhi, India; Verona, Italy; Poznan, Poland; and Barcelona, Spain. At the Barcelona fair, the U.S. cotton exhibit won three top prizes for excellence—the first exhibit to do so in the history of the fair.

Trade Liberalization: FAS continued to play an active role in the U.S. Government's efforts to relax foreign trade barriers and eliminate discrimination against dollar imports. Particular attention was focused on the agricultural sector where the rate of relaxation has been less rapid than in the industrial sector.

The increased trend toward liberalizing trade barriers which began in the fiscal year 1959 continued into 1960. Countries taking liberalization steps in the agricultural sector during 1959–60 included Belgium, France, Italy, Japan, Netherlands, Norway, Spain, Denmark, Australia, United Kingdom, West Germany, and Portugal. Pork, beef and veal, oats, tallow, unrefined lard, canned fruit, tobacco, honey, grass seeds, oilseeds, packaged rice, dried prunes, apples, and pears were some of the commodities affected.

Of particular importance to the future of U.S. agricultural exports are the agricultural policies and programs scheduled to be adopted by the Common Market countries—Belgium, Netherlands, Luxembourg, West Germany, France, and Italy. We continued to cooperate with the State Department and other Government agencies to assure the Common Market policies will not interfere unduly with the agricultural trade interests of nonmember countries.

Food for Peace: Great progress was made under the Food for Peace Program initiated in 1958–59.

The largest foreign currency transaction—the biggest single grain deal in history—was negotiated during the year between the United States and India. This 4-year program will enable India to receive from the United States:

587 million bushels of wheat (half of a U.S. wheat crop).

22 million hundredweight of rice (half of a U.S. rice crop).

On the average, a shipload of food a day will move to India as a result of this program.

India will pay the United States in rupees, not dollars. A large proportion of the rupees will be loaned and granted back to India

for economic development; and the remainder employed to make loans to private U.S. and Indian business firms and for U.S. Government uses, including agency programs and agricultural market development.

American donation programs helped millions of persons overseas in 1959–60. Typhoon victims in the Ryukyu Islands and Japan, refugees in Hong Kong and the Middle East, and thousands left homeless and destitute by earthquakes in Morocco and Chile received U.S. surplus food. Altogether, such food, identified as gifts from the American people, was distributed to some 62 million people in 92 countries and dependencies.

First call on available surpluses is given to the needy here at home, second call to those overseas.

Food for Peace is an apt descriptive phrase for our efforts to help feed the hungry people of the world. Our efforts to share abundance are promoting stability and furthering the cause of peace.

This is a two-way program. Not only are our foreign friends benefiting, so are we.

Export outlets are important to American agriculture because they put dollars in farmers' pockets. And when exports reduce supplies hanging over markets, domestic prices tend to strengthen.

But the humanitarian sharing of our abundance with needy people is a highly desirable end in itself. Through sharing, we show our friendship and good intentions toward many millions of people—a fact that has not been obscured by occasional Communist-inspired demonstrations against the United States and its leaders.

Moreover, in relieving hunger and promoting economic growth, we strengthen the capability and will of weaker free-world countries to resist aggression and subversion. This, indeed, is one of the keystones of U.S. foreign policy.

Our food, technical assistance, and economic aid are promoting development among needy peoples. This eventually will mean permanent dollar markets for American farmers and businessmen.

The following tabulation shows the value of exports under Government programs by type of program, and amount sold for dollars, in the year ending June 30, 1960.

	Million dollars
Government programs:	
Public Law 480:	
Sales for foreign currencies	815
Disaster relief	65
Donated through voluntary agencies	107
Barter	151
Total Public Law 480	1,138
Mutual Security Act: Sales for foreign currency and economic aid	162
Total	1,300
Sales for dollars	3,200
Total U.S. agricultural exports	4,500

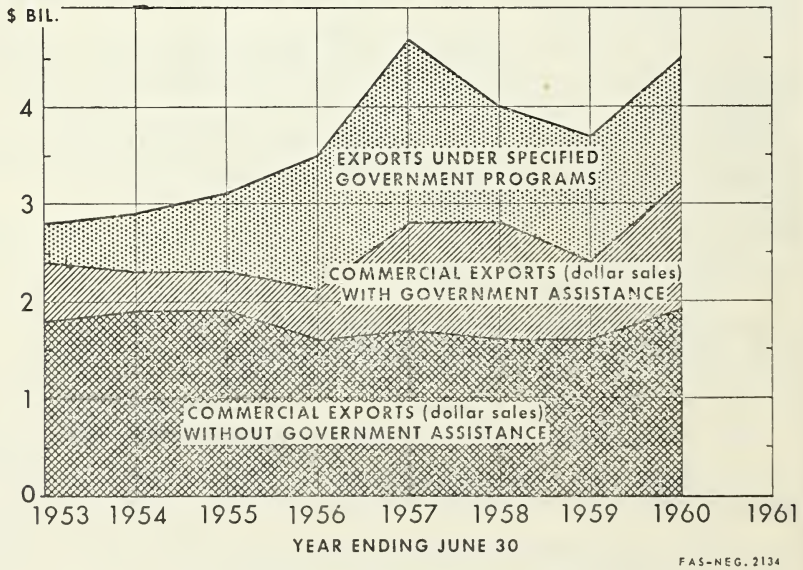
Sharing Our Agricultural Technology: Under contractual arrangements with the International Cooperation Administration, the Department provided leadership in one of the important phases of the Nation's mutual security program—sharing American agricultural skills with lesser developed nations. During fiscal 1960, 3,614 foreign agricultural scientists, administrators, and technicians were assisted in securing training or visitation opportunities needed to help them cope with problems in their home countries.

The success of the foreign training programs is largely due to close cooperation between the Foreign Agricultural Service and the Land-Grant College system, other USDA agencies, the national farm organizations, and over 500 private firms. Much of the overall effort, of course, is a direct result of contractual arrangements with the International Cooperation Administration.

The Department also has fostered continuing Government-sponsored exchanges of United States and Soviet agricultural delegations. Under the terms of the present exchange agreement, seven U.S. groups visited the Soviet Union while five Soviet groups came to the United States.

Imports: U.S. importers of sugar, coffee, tea, spices, and hard fibers were kept constantly informed on the outlook for production and supply. Sales of these products in the United States provide other countries with dollars to buy U.S. products.

Dollar Sales Exceed 70%
Of Total Farm Exports in 1959-60



USDA FAS-NEG. 2134

We paid close attention also to imports of competitive commodities which if uncontrolled, might render ineffective or materially interfere with U.S. domestic agricultural programs.

International Organization Affairs: FAS coordinated Department policies and standards of participation in the affairs of international organizations affecting agriculture.

The agency arranged for the Department's participation in 144 international meetings, ranging from conferences of intergovernmental bodies in which the United States maintains membership to "workshops" on technical and economic problems common to the United States and Canada. These included conferences of governing bodies of intergovernmental organizations, large scientific gatherings, intergovernmental discussions of commodity policies and problems, and negotiating conferences on commodity and trade policy matters.

Early in the fiscal year, FAS published an 86-page handbook on international organizations and activities of interest to the Department of Agriculture. This document, designed for use within the Department, contains information on the history, purposes, and work of 34 international organizations, and describes the interests of the Department in each.

Highlights of FAS Progress, 1953–60

The highly successful export operations of 1959–60 reflect 7½ years of effective work by the Department to expand agricultural exports, which had sagged to $2.8 billion in value after the Korean War. Beginning in 1953, we reorganized USDA foreign agricultural activities to give the export side of marketing a new look and new vitality. Since 1953, each major activity undertaken by the Department's Foreign Agricultural Service has had one prime objective—bigger foreign markets for American farmers.

Export marketing work developed since 1953 falls into two major categories.

First, activities to expand commercial export sales of U.S. farm products for dollars.

In support of this work, we—

Reorganized and strengthened "agricultural intelligence" activities; that is, the collection, analysis, and dissemination of a wide variety of foreign market information, including information on overseas marketing opportunities and foreign competition.

Administered programs to keep U.S. farm products competitive, pricewise, in foreign markets.

Developed for the first time cooperative arrangements with trade and agriculture groups to further overseas market promotion.

Initiated U.S. participation in international trade fairs as a prime means of calling to the attention of foreign consumers the wide variety and high quality of U.S. farm products.

Persisted in efforts to bring about a lowering of barriers raised against U.S. farm products by other countries.

Second, operations to expand exports of U.S. surplus farm products, through special government Food for Peace programs, to dollar-short, underdeveloped countries.

In this area we—

Supported enactment of Public Law 480, particularly the important "Title I" authority to sell surplus U.S. farm products for foreign currencies.

Increased the effectiveness of programs through which surplus food is donated to needy people overseas.

Revised barter policies to assure that "swapping" transactions would mean additional exports rather than the replacement of dollar sales by barter.

Took steps to insure that barter and concessional sales would not unduly disturb world markets or interfere with normal marketing operations of friendly foreign countries.

Promoted international cooperation in the relief field through a Food for Peace Conference leading to establishment of a five-nation Wheat Utilization Committee.

Furthered programs to share, through foreign training activities, U.S. agricultural skills and know-how with the newly developing nations.

In carrying on this revitalized export program, USDA had the cooperation of other Government agencies, including the Department of State, the International Cooperation Administration, the Export-Import Bank, and others.

Between 1954 and 1960, the following agricultural export records were established:

Greatest export value for any 7-year period in history—$26.5 billion.

Greatest export volume for any single year (1959–60).

Greatest export value for any single year (1956–57)—$4.7 billion.

Greatest value of agricultural exports moving under special programs to aid underdeveloped countries (1956–57)—$2 billion.

Exports of 14 agricultural commodities reached record annual highs.

As 1959–60 ended, American farmers were doing more to help feed and clothe the world's people than ever before. Furthermore, the outlook for continued high U.S. agricultural exports appears moderately favorable. Foreign dollar earnings have increased from $17.3 billion in 1950 to $29.5

billion in 1960. This increased ability of many countries to buy U.S. farm products is a constructive factor. Exports under Food for Peace programs are expected to continue at relatively high levels.

Commodity Exchange Authority

The principal task of the Commodity Exchange Authority is to see that the prices projected to farmers from futures trading correctly reflect basic, competitive forces in the market. The maintenance of fair practices and competitive pricing, and the prevention of artificial or manipulated prices are the major purposes of the Commodity Exchange Act.

To effectuate these purposes, the CEA maintains regulatory policies and procedures which provide continuous supervision of the many futures markets and commodity brokerage activities on the 16 commodity exchanges licensed under the Commodity Exchange Act.

The CEA keeps watch on futures trading operations, which have an annual value of more than $26 billion. A continuous stream of factual data on futures operations is received through a reporting system maintained by the agency, which obtains more than 500,000 reports a year from large traders, commodity brokers, and exchange clearing members. For the protection of commodity customers, the CEA audits the books and records of all futures commission merchants registered under the act. These merchants at present maintain more than 2,000 principal and branch offices.

CEA publishes many regular and special reports respecting the commodity markets which the Commodity Exchange Act authorizes the Secretary of Agriculture to "compile and furnish to producers, consumers, and distributors * * *."

Their value may be inferred from the response to one such report, Soybean Futures Trading, 1959–60.

This report told the story of the record size futures market that began to develop in the fall of 1959, just as the soybean crop began moving to market.

Did the increased activity and upward price trend in soybean futures indicate a strong basic demand for the commodity, or did they simply reflect a passing speculative interest which might collapse at any moment?

To get the facts, the Commodity Exchange Authority obtained detailed information on every account in the Chicago soybean futures market—the name and address of each trader, the amount of futures contracts "long" or "short," and whether they were speculative or hedging.

The survey and subsequent report showed that there were more than 8,000 traders in the soybean futures market, drawn from 50 States and 16 foreign countries. Many of the traders were speculators, but the survey showed that the market was basically sound,

because the speculative buying was absorbing the weight of "hedging" sales coming in on the other side of the market. Elevators, oil mills, and the farmer cooperatives, protected against price risks by such hedging sales, were buying soybeans freely from farmers at prices well above the Government loan level.

The large futures market helped to move the bulk of the crop into commercial channels. Farmers placed smaller quantities of soybeans under Government price supports than in any season since 1955. Generally speaking, the survey and report showed that the broad soybean futures market contributed to effective and orderly marketing of the year's crop.

Hundreds of persons wrote to CEA asking for copies of the soybean report. An official of a commodity brokerage firm said the report "has had favorable comment from numerous people engaged in marketing and hedging," and added, "We would like to place the report in the hands of the personnel of our branch offices, domestic as well as abroad."

A professor of agricultural marketing asked for copies for classroom use. "It will be very valuable in teaching," he said.

In the 1953–60 period, CEA investigations made enforcement work particularly effective in suppressing price manipulation, the Government's charges being sustained in all administrative and Federal Court proceedings completed during the period.

Effective regulation in the 1953–60 period has helped to improve the services of futures trading in numerous commodities. In the grain futures markets, the average level of traders' holdings in the 1960 fiscal year was the highest since 1934. In wool, eggs, potatoes, soybeans, soybean oil and soybean meat, the 1960 average of traders' holdings was the largest on record.

AGRICULTURAL STABILIZATION

In fiscal 1960 we made further significant progress in commodity and cropland stabilization. Dairy production and consumption were in fairly good balance. More realistic price support levels for corn and other feed grains resulted in record exports of these commodities at smaller cost in export-payment assistance. Domestic consumption of corn increased. Wool production turned upward toward the 300 million pound annual goal established by the National Wool Act of 1954. An additional 6.6 million acres of cropland were placed in the Conservation Reserve, bringing the total acreage in the Reserve after 5 years of operation to 28.7 million acres.

Commodity Stabilization Service

Although milk production in 1960 increased over 1959, the overall level of price support purchasing of dairy products remained about the same.

Dairy farmers during the first half of 1960 received higher average prices for both manufacturing milk and butterfat than during the same period of 1959. By mid-October 1960, cash receipts by farmers from the sale of dairy products were rising toward a new record high year.

Dairy products acquired under price support operations, mainly butter and nonfat dry milk, continued to move rapidly into consumption. Both products were used intensively to bolster the diets of school children and others eligible to receive donations of surplus foods from CCC stocks. The prospective remaining surplus over sales and domestic donations of nonfat dry milk was committed in early September for donation overseas. It appeared then that—in addition to 180 million pounds of rice and almost unlimited supplies of wheat flour and cornmeal definitely committed for this use—as much as 500 million pounds of nonfat dry milk might be made available during the 1961 fiscal year to U.S. voluntary relief agencies for foreign donation under the intensified Food for Peace program.

Exports of feed grains in 1960 continued at a record level. Foreign markets are now taking about double the quantity of U.S.-produced feed grains they imported a decade ago. During the marketing year which began in October 1959, an estimated 12½ million tons of feed grains were exported—in contrast to the 5⅓ million tons exported annually during the years around 1950. The more realistic pricing of U.S. feed grains is enabling the huge export quantity to move with little or no need of Government assistance in the form of subsidy payments.

In mid-1960, no subsidy payments were required to maintain corn exports at a 235 million bushel annual level, and during the early part of the year the payments were only a few cents a bushel. In 1958, before the new corn program was put into effect, export subsidy payments on corn ran as high as 25 cents per bushel.

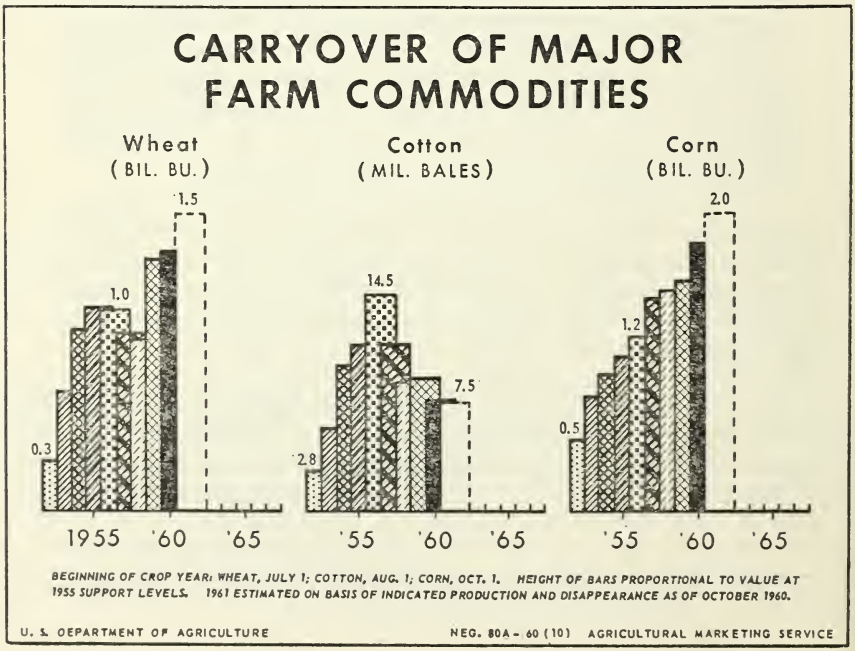
A comprehensive reappraisal during 1959 and 1960 of the storage situation, in terms of storage costs in relation to modern developments in grain handling, led to a downward revision in rates paid for handling and storing CCC-owned grains. The revision, which went into effect under the Uniform Grain Storage Agreement for the 1960–61 storage year, represents an average reduction of about 19 percent in rates and will save between 85 and 100 million dollars in storage costs on CCC-owned grains during the 1961 fiscal year.

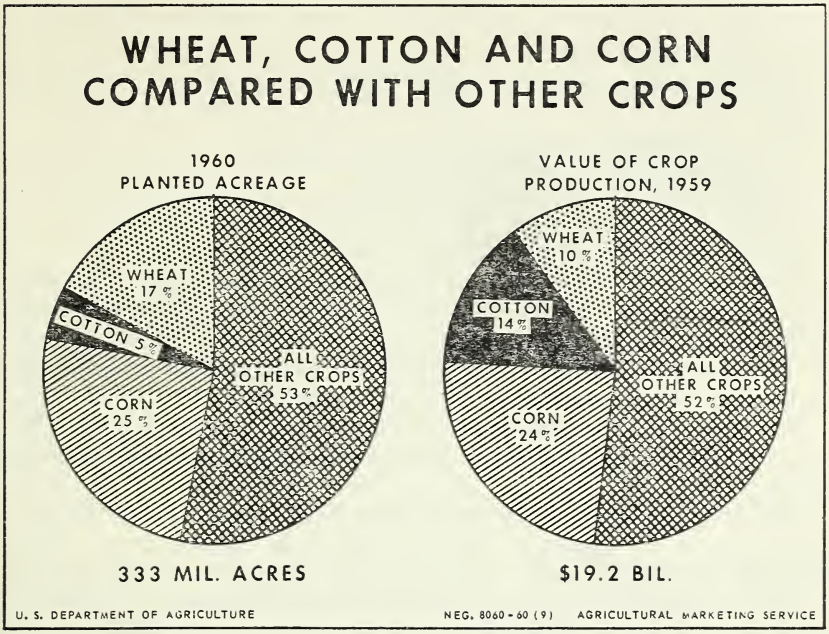
The detailed study of the storage situation revealed new factors at work in the grain storage and handling industry that permitted the rate change. Among these were increases in the average size of facilities, in the level of occupancy, and in the length of time grain remained in storage. Cost statistics previously used in establishing rates did not fully reflect the new factors brought out by the study.

The dollar volume of price support extended by the Commodity Credit Corporation on 1959 crops through June 30, 1960, totaled $3,193,700,000, compared with $3,992,000,000 extended on 1958 crops through June 30, 1959. More than half of the price support extended—$1,625,500,000—was in the form of commodities purchased. The large 1960 increase in purchases over the year before (when the total for commodities purchased was only $275,100,000) was due primarily to a change in the cotton price support program making cotton grown under Choice A acreage allotments eligible only for purchase, not for price support loans. Price support extended on 1959 crops through June 30, 1960, in the form of loans totaled $1,440,000,000, and in the form of purchase agreements, $128,100,000.

During fiscal 1960, the Commodity Credit Corporation disposed of price supported commodities with a cost value of $3,598 million. Of this total—

$2,163 million represented sales for dollars.
$361 million, operations under Titles I and II, Public Law 480.
$228 million, barter.
$244 million, donations.
$221 million, transfers to other government agencies.
$381 million, payments-in-kind.





These dispositions brought the outmovement of surplus agricultural commodities from CCC stocks during the past 7 years to a total of more than $20 billion.

Of this 7-year total, more than 57 percent represented commodities moved overseas, indicating the vitally important role that our agricultural surpluses can play in economic developments throughout the world. Under the recent intensification of the Food for Peace program, we expect to continue, and to expand if possible, this emphasis on using our food abundance as a vital asset in the economic struggles of free peoples everywhere.

At the end of June 1960, the CCC's investment in price support totaled $8,525 million. This consisted of $1,302 million in loans outstanding and $7,223 million in inventories (cost value basis). A year earlier, on June 30, 1959, CCC funds invested in price support loans and inventories totaled $8,649 million.

Three commodities accounted for the bulk of the June 30, 1959, loan total:

Corn, 579 million bushels, $646 million.
Tobacco, 668 million pounds, $418 million.
Wheat, 92 million bushels, $163 million.

As a result of the new upland cotton program, under which only cotton grown on Choice B acreage was eligible for price support loans in 1959 and 1960, upland cotton loans outstanding on June 30, 1960, totaled only $1.6 million on 11,505 bales as compared with $1,048 million on 6,100,000 bales a year earlier. CCC also had loans outstanding on soybeans, barley, extra long staple cotton, dry edible

beans, flaxseed, grain sorghums, oats, rice, rye, honey, peanuts, tung oil, and gum naval stores.

The largest commodity holdings in the CCC inventory on June 30, 1960, were—

Wheat, 1,195 million bushels, valued at $3,050 million.
Corn, 1,158 million bushels, $2,064 million.
Upland cotton, 5.0 million bales, $890 million.
Grain sorghums, 319 million hundredweight, $833 million.
Barley, 71 million bushels, $85 million.

Other farm commodities in the inventories were oats, rice, flaxseed, rye, soybeans, butter, nonfat dry milk, cheese, extra long staple cotton, tung oil, peanuts, linseed oil, and turpentine. Also in the inventory were $53 million worth of strategic materials acquired through barter of surplus farm commodities owned by CCC.

The net realized price support program loss sustained by CCC totaled $795,469,117 for fiscal 1960, as compared with $821,127,779 for fiscal 1959.

The CCC is authorized by law to borrow money as needed for operations up to a maximum of $14,500 million outstanding. As of June 30, 1959, CCC had in use $12,860 million of the authorized total.

Wool Incentive Program: Wool production has begun to turn upward toward the 300-million-pound annual goal established by the National Wool Act of 1954. In setting this objective, the Congress recognized wool as an essential and strategic commodity, not produced in this country in sufficient quantity to meet domestic needs.

The upturn in domestic production is encouraging. In 1953, just before the new program was begun, shorn wool production was down to 232 million pounds. Production for 1960 is estimated at 265 million pounds, the highest since 1946.

When the new program started, the Commodity Credit Corporation owned nearly 150 million pounds of U.S.-produced wool acquired under price support operations for the years 1952, 1953, and 1954. All of these Government-owned stocks were disposed of by the end of 1957 without disruption of the wool market. We have since acquired no new stocks. Under the new program, domestic wools are priced in the market place and move directly into consumption. Incentive payments to producers are made from appropriated funds, but are limited in amount to Treasury receipts from duties on imports of wool and wool manufactures. The payments are designed to bring the U.S. average wool price received by producers to a preannounced incentive level. This level has remained at 62 cents a pound since the start of the program.

Sugar Program: Under the Department's sugar program, authorized by the Sugar Act of 1948, as amended, the wholesale price of refined cane sugar ranged between 9.20 cents and 9.55 cents per pound during fiscal 1960. Total sugar requirements for the calendar year 1959, initially established at 9,200,000 short tons, raw value, were finally set at 9,400,000 tons.

Requirements for calendar year 1960 were initially set at 9,400,000 tons and no change was made through the end of fiscal 1960. Early in July 1960, however, the Sugar Act was extended through March 1961 and amended to authorize the President to establish the quota for Cuba and provide for replacement from other sources. Under the reduced quota set for Cuba July 6, 1960, little Cuban sugar has been imported since mid-July. By August 2, 1960, total U.S. domestic requirements for 1960 had been raised in three steps to 10,400,000 tons. The additional requirements will be met out of larger domestic production and increased imports from foreign countries.

Conditional payments approximating $71.4 million were made on the 1959 crop to about 67,000 sugar beet and sugar cane producers in 25 States, Puerto Rico, and the Virgin Islands. Sugar tax collections during fiscal year 1960 totaled about $94.9 million.

The Conservation Reserve: During the signup period for 1960 Conservation Reserve contracts, farmers operating more than 77,000 farms placed an additional 6.6 million acres of cropland in the program, bringing the total cropland acreage in the reserve to 28.7 million acres.

The need for resting some of our cropland from the production of currently unneeded commodities is generally recognized. The Conservation Reserve program has been taking land out of production for periods of 3 to 10 years and protecting it from deterioration so that it can be returned to production as needed.

The program has intensified such desirable agricultural trends as increasing tree planting in the Southeastern States and diverting 9.5 million acres of the Great Plains land from the production of surplus crops to grass. The grass, tree, and wildlife cover established on the Conservation Reserve constitutes one of the major land-use adjustments of recent years.

Shifting land to uses for which it is better adapted complements and furthers sound rural development. Some farmers have used the reserve to reduce the size of their operations and the need for hired labor; others are withdrawing from farming because of health, age, or other reasons.

Farmers participating in the Conservation Reserve voluntarily contract to withdraw a designated acreage of cropland from production for up to 10 years. They also agree to reduce the total crop acreage on their farms by the amount of land placed in the reserve and to comply with any acreage allotments on the farms. The Federal Government shares the cost of establishing conservation cover on the reserve land and makes an annual rental payment for the life of the contract.

The conservation cover to which the reserve acreage is being devoted includes:

26.2 million acres to grass or grass and legume mixtures;
2.2 million acres to trees and shrubs;
300,000 acres to plantings especially beneficial to wildlife;
7,200 ponds and other water impounding structures.

To be eligible for the Conservation Reserve, land must have been devoted to cultivated crop production, including tame hay, or have been in a regular crop rotation before being placed under contract. Estimates based on farmers' reported previous use of reserve land are as follows:

4.6 million acres formerly devoted to corn;
3.8 million acres formerly devoted to grain sorghums;
4.1 million acres formerly devoted to oats;
3.1 million acres formerly devoted to wheat;
Nearly 14.0 million acres formerly devoted to other crops and uses, including double cropping and other multiple treatment.

The annual rental cost per acre for all land currently under contract averages $11.85. The cost to the Government for assistance to farmers in establishing the conservation cover averages $4.34 per acre for the new land contracted for 1960.

While legislative authority to accept new contracts ended with the 1960 crop year, contracts already in effect will continue through the full term of years specified.

Crop Allotments, Quotas: As previously approved by growers in referendums, marketing quotas (and acreage allotments by which the quotas are applied to individual farms) were in effect for 1960 crops of wheat, cotton, rice, peanuts, and nine principal types of tobacco.

Growers' referendums held December 15, 1959, approved marketing quotas for the 1960 crops of upland and extra long staple cotton and rice, and for the 1960, 1961, and 1962 crops of peanuts; and referendums held in 1960 approved quotas for 1961-crop wheat (July 21), the 1960–62 crops of Maryland tobacco (Feb. 2), and the 1960–62 crops of cigar binder and cigar filler-and-binder tobaccos (Feb. 11).

Operation of the allotment and quota programs for 1960 crops continued the trend toward some relaxation of rigid controls. From 1955 through 1960, quotas and allotments were used for five of the basic crops—wheat, cotton, peanuts, rice, and tobacco. For corn, acreage allotments were used through 1958 but, following a referendum of producers on November 25, 1958, were discontinued for 1959 and subsequent years. Growers are now free to plant as much or as little corn as they wish, while still receiving a reasonable level of price protection.

Along somewhat similar lines, growers of upland cotton in 1959 and 1960 were free to choose between the regular allotment and price support rate (Choice A) and a higher farm acreage allotment with a lower level of price support (Choice B). In 1959 and 1960, growers choosing the Choice B program increased their "regular" farm allotments of upland cotton by totals of 1.0 million and 1.2 million acres, respectively.

Highlights of CSS Progress, 1953–60

During the past 7 years we have made noteworthy progress in both commodity and cropland stabilization. Dairy production and consumption are in better balance. Corn and

the other feed grains are on a more realistic price support basis, and a start has been made on cotton, rice, and other commodities. Exports of most of our surplus commodities are at record levels. Under the National Wool Act of 1954, production of wool has begun a climb toward the 300-million goal specified by the Act. With 28.7 million acres of cropland in the Conservation Reserve at the end of the 1960 sign-up, we have given cropland conservation a strong lift.

Federal Crop Insurance Corporation

The following comments made just a few years apart by an Oklahoma farmer illustrate the potential service value of Federal All-Risk Crop Insurance to the Nation's agriculture:

> "I have never had to collect any loss since I have carried this all-risk insurance, but I know that the protection is on my wheat at planting through harvest, and during these times of high farming operation, it gives me a feeling of well-being to know that no matter what happens I will have enough money to put in another crop."

> "My good experience ended in 1959 when I got hit by drought and hail. I'm glad I had the all-risk protection. The indemnity check was certainly a big help in putting in the next crop. I hope I never have another loss, but I intend to keep my policy in force because I know my crops can be destroyed again any year."

The Federal Crop Insurance Corporation is developing a "business-method" for farmers to join together to share their mutual risks. The significance of such protection can best be appreciated in terms of what is required, without such insurance, to recover from a crop loss. In the example above, the farmer was paid an indemnity of $1,543. If he normally realized a 25 percent profit on each dollar of wheat sold, it would take the profit from $6,172 worth of future wheat crops just to regain the crop capital which he would have lost except for the insurance protection.

The fact that "any crop can be destroyed any year" underlines the importance of a sound and widely accepted all-risk insurance of crop capital. It also emphasizes the high catastrophe risk inherent in the insuring of crop capital against all of the many hazards beyond the farmer's control.

The Federal Crop Insurance Corporation has paid indemnities (totaling about $450 million), due to more than a hundred specific causes of loss. These include such major production risk categories as weather, insects and diseases, and miscellaneous categories such a fire and wildlife.

In the years ahead the need for such basic insurance will in all probability be greater than in the past. The Nation's agriculture for some time has been moving in the direction of fewer but larger farming units. Changing times on the farm front have sharply increased capital investment, annual production cost and credit requirements for successful farming. Higher costs and increased competition have narrowed the profit margins. The standard of living of farm families generally has been rising; higher annual income is required to maintain the new standards. These changes mean that the impact of future crop disasters on farm and rural business finances could be even more devastating than in the past.

Starting in 1948 the Congress reduced all-risk crop insurance operations from a national to an experimental scope and instructed the Corporation to develop a sounder basis for offering this broad financial protection to farmers. During the past 8 years we have made major progress in strengthening the soundness of all-risk insurance. This progress has been outstanding during the past 4 years. The crop year of 1960 was the fourth consecutive year in which premiums exceeded indemnities. The 1960 loss ratio is now estimated at 0.44, which means that 44 cents of each premium dollar will go to pay indemnities. Only the citrus program required more than its year's premiums to pay losses. Citrus indemnities in Florida caused by Hurricane Donna totaled more than $500,000. Current estimates of premiums and indemnities indicate that 1960 premiums will exceed the $7,902,000 of indemnities by $9,900,000, a significant addition to premium reserves for use in years when indemnities may exceed premiums.

Our recent progress in strengthening the insurance structure is well illustrated by the following summary for the past 4 years:

Crop year	Premiums	Indemnities	Difference	Loss ratio
1957	$17, 407, 000	$12, 004, 000	$5, 403, 000	0. 69
1958	17, 617, 000	4, 505, 000	13, 112, 000	. 26
1959	18, 474, 000	14, 131, 000	4, 343, 000	. 76
1960 (est.)	17, 802, 000	7, 902, 000	9, 900, 000	. 44
Total	71, 300, 000	38, 542, 000	32, 758, 000	[1] . 54

[1] Average.

Planning for Defense

In a defense emergency the survival of this Nation could well depend on its ability to maintain necessary supplies of food and fiber. Planning for defense in this field is a broad endeavor. It encompasses emergency operations relating to food production, processing, and dis-

tribution. It includes protective measures against radioactive fallout, biological warfare and chemical warfare as these hazards concern agriculture. It takes in defense against fires in rural areas.

We have integrated defense planning into the day-to-day activities of the Department. For this vital task we have selected personnel whose experience and capability in current programs would be useful in performing emergency operations. To meet requirements in such areas as analyzing the effects of nuclear attack and handling radiation problems, special skills and techniques have been developed.

In carrying out our regular and continuing programs, we include appropriate references to defense in publications and other information media, in speeches, and in meetings, discussions and conferences with government, industry, and farm groups.

We have developed an emergency organizational mechanism in the Department, delegating emergency authority and assigning defense operating responsibilities at national, regional, State, and county levels.

A departmental Regional Liaison Representative has been appointed on a full-time basis in each of the eight regions of the Office of Civil and Defense Mobilization to provide regional coordination with OCDM and other Federal agencies.

In each State an emergency planning committee has been established. The chairman and members are representatives of Department agencies having major defense responsibilities within the State—Agricultural Marketing Service, Agricultural Research Service, Commodity Stabilization Service, Cooperative Extension Service, Farmers Home Administration, Forest Service, and Soil Conservation Service. An emergency planning committee has been authorized also in each county, staffed by representatives of agencies having important defense responsibilities in the county.

The importance of USDA's defense role under the National Plan for Civil Defense and Defense Mobilization was emphasized during the year by the issuance of various annexes to the National Plan. The National Food Plan Annex and annexes such as those dealing with radiological defense, fire defense, and biological and chemical warfare defense assign major planning and operating functions to the Department. Responsibilities are also assigned to the general public, farmers, industry, local and State government.

In our continuing reappraisal and testing of plans, we are emphasizing the training of field personnel who would have responsibility for the Department's emergency operations in States and counties in a postattack period. Emphasis is also given to developing working relationships with State and local governments, farmers and the food industry to achieve a mutual understanding of their relative responsibilities in carrying out emergency food and other agricultural functions.

SOUND AGRICULTURAL CREDIT

In 1960 the Department continued its excellent record of sound credit service to farmers unable to secure needed loans from private or cooperative sources.

Farmers Home Administration

Supervised agricultural credit services—credit accompanied by technical farm management advice—provided by the Farmers Home Administration in 1960 supplemented financial assistance offered by conventional lenders and assisted the Nation's farmers in carrying out their farming operations. Farmers generally used FHA credit to buy foundation livestock, machinery, quality seed, fertilizer, and other items needed to farm successfully; to develop, improve, and enlarge farms; and to construct and repair farm houses and other essential farm buildings.

The following case history is typical in FHA files:

> A farm enlargement and development loan from the Farmers Home Administration along with a father-son partnership was the successful combination which a young Washington County, Okla., farm couple used to get started in the dairy business.
>
> When this couple married in 1949, they had a herd of 15 registered Guernseys. In 1960 they owned 40 cows and 12 heifers, 200 acres of land, a line of machinery, and a modern, mechanized dairy system.
>
> They first milked their cows and farmed in partnership with the young man's father. Now the young couple operate their dairy herd separately; but to reduce overhead and better utilize their machinery, they still operate the cropping program through a father-son partnership.
>
> Despite hard work and conservative living, this young family soon found that the 80 acres they had bought plus their small dairy herd did not add up to an efficient dairy operation.
>
> The father, who had once served as a county committeeman for FHA, suggested that the young couple apply to FHA for credit to get on a sounder economic basis.
>
> Qualifying for a farm enlargement and development loan, they used their credit to refinance the 80 acres, buy an additional 120 acres, and build a new dairy barn. They also installed a 4-stall milking parlor and a 600 gallon bulk tank.
>
> Working with the county FHA supervisor the couple developed a sound farm and home plan including both short and long-term goals.

Many improvements in their farming program grew out of this farm management assistance. By careful selection of replacements, culling, and other good management practices, they have increased their average herd production at least 1,000 pounds per cow per lactation period through the past 3 years. They buy cows with high production records, and have adopted better feeding practices, an improved pasture program, and over-all improvements in management including the use of the owner-sampler dairy testing program.

They grow wheat, soybeans, and small grains as cash crops; and grain sorghums, oats, corn and forage crops as feed for the dairy herd. Each year they fill a 400-ton capacity trench silo with Atlas sorgo silage.

The family, now augmented by two small sons, is making excellent progress and will soon be able to secure full credit needs from conventional lenders.

Farmers Home Administration made and insured loans totaling $308,872,000 during fiscal 1960, compared with $361,629,000 the previous year, and an average of $332,600,000 for the past 5 years.

Principal and interest collections during fiscal 1960 amounted to $307,300,000, compared with $347,700,000 for fiscal 1959, and a 5-year average of $309,600,000.

As of June 30, 1960, outstanding loans totaled $1,164,969,000 compared with $1,117,397,000 on June 30, 1959, and an average of $1,061,375,000 for the same date for the past 5 years.

During the year, 181,000 farmers either received loans or used credit advanced in previous years. Approximately 27,200 borrowers repaid their loans in full during the year.

In addition, FHA county supervisors provided credit counseling assistance to 29,000 farmers who called at Farmers Home Administration county offices for farm financial planning assistance. Many of these farmers were able to develop money management plans that enabled them to qualify for credit from other lenders.

Operating loans totaling $198,341,000 were made to 69,888 farmers in fiscal 1960. These funds were used to acquire additional livestock; to buy, replace or repair farm equipment; to pay annual operating expenses such as for fertilizer, tractor fuel, feed, and insecticides; and to refinance chattel debts. In fiscal 1959, similar loans totaling $188,500,000 were made to 74,405 farmers.

The increase in operating capital advanced during the year reflected the trend toward larger and more efficient family-type farming operations.

Emergency loans totaling $22,965,000 were made to 9,203 farmers, enabling them to resume normal farming operations in the wake of droughts, floods and other disasters. This compares with total loans of $39,851,000 made to 11,405 farmers in 1959. Due to the generally

good weather of the past 3 years, emergency loans have been sharply declining.

FHA made real estate loans totaling $87,428,000 to 8,830 farmers and 25 associations, with $17,809,000 being advanced under the insured loan program. During the previous year comparable loans were made to 13,492 farmers and 53 associations in the amount of $132,875,000, of which $38,225,000 was insured. Money market conditions in fiscal 1960 made these loans less attractive to investors.

Real estate loans are advanced for the enlargement and improvement of farms, farm purchase, construction and repair of farm houses and other farm buildings, financing of soil conservation measures, and developing irrigation and farmstead water supply systems.

Credit totaling $138,000 was also extended to five organizations to assist them in participating in the development of small watersheds.

Farmers Home Administration loan programs are administered through 1,450 offices serving agricultural areas throughout the United States, Puerto Rico, and the Virgin Islands. Three-member committees of local farmers determine the eligibility of applicants and assist the agency's county supervisors in adapting national policies to local conditions.

Highlights of FHA Progress, 1953–60

I. We expanded FHA's regular lending services and added additional services. As part of the Rural Development Program, farm operating and farm development loans were made available to qualified farmers employed part-time off the farm.

We broadened the emergency loan program which proved especially helpful to farmers suffering from prolonged drought in the Great Plains; also to farmers in other areas struck by floods, tornadoes, and other calamities.

Soil and water conservation loans were made available for the first time to individuals and groups of farmers across the country to carry out soil conservation, drainage, pasture improvement, tree plantings, and to develop water systems for irrigation, livestock, and home use.

We gave increased emphasis to furnishing credit counsel to farm families other than borrowers. Many such families after talking with FHA supervisors, developed sounder plans for farming operations, thus qualifying for financing from sources previously unable to serve them.

A new watershed loan program was made available to local organizations to protect and develop land and water resources in small watersheds. Eligible organizations include soil or water conservation districts, irrigation districts, drainage districts, flood prevention or control districts, municipal corporations, and others.

We improved the insured loan program, making this type of real estate credit available to more farmers.

In fiscal 1960, FHA made loans totaling $309 million compared with $229 million loaned 8 years ago.

II. We improved the efficiency of FHA operations by:

Delegating more authority to State and county offices thereby speeding up loan making and loan servicing.

Consolidating four area finance offices into one national finance office.

Developing a well-organized training program for new employees.

Condensing loan making and loan servicing regulations to provide simpler and clearer instructions to loan making officials.

Eliminating unnecessary forms.

Rearranging the staffing pattern on a more efficient basis. FHA's many additional and improved services were provided by a staff of 4,694 full-time employees on June 30, 1960, compared with 5,975 full-time employees on June 30, 1953.

Further improvements were made in FHA operations since June 30, 1960.

The farm housing program was broadened by making loans available to qualified farmers who own farms that are in production, and which will annually produce for sale or home use at least $400 worth of commodities based on 1944 prices.

Operating and farm development loans were made available to qualified farmers regularly employed off the farm.

Supervision in farm and money management is being more closely tailored to borrowers' needs.

Rural Electrification Administration

Two significant REA anniversaries during fiscal year 1960 called attention to the continuing benefits of the rural electric and the rural telephone program. Long-term loans and loan-supporting activities during this period continued to help rural people and to strengthen American agriculture, through the increased use of electric power on the lines of REA electric borrowers and the improvement and expansion of telephone service by REA telephone borrowers.

Electric Program

The progress of rural electrification usually is described in terms of statistics: Dollars and cents, kilowatt-hours, miles of line. The figures are necessary, but they do not tell what electric power means to rural America. The end product of REA's rural electrification program is service to people, and it cannot be measured in statistics.

In human terms, rural electrification means a light to read by on a dark winter night.

It means a radio and a television set passing on a frost warning in Georgia or a late market report in Iowa.

It means ironing without first stoking a range red-hot to heat the flatiron.

It means a youngster changing his mind about seeking his fortune in the city, and making plans to stay on the ranch after graduation.

It means better food on the table year-round, for both city and country people.

It means a cooperative annual meeting, where hundreds of rural families turn out to elect directors to run the electric system these families own.

It means greater self-respect for millions of rural people.

This was the real meaning of rural electrification as the REA marked its 25th anniversary on May 11, 1960. And this is why hundreds of thousands of farm families and other rural people celebrated the event at meetings and ceremonies in small towns, as crossroads assembly halls, and at county fairgrounds throughout the country.

Since the start of REA's electric program, $4.1 billion in long-term loans have enabled rural electric cooperatives and other local organizations to bring electric power to millions of rural homes, farmsteads, schools, churches, and commercial establishments in rural areas. When REA loans made during the 1960 fiscal year have been translated into construction, the number of consumers receiving service from the program will reach 5.3 million. About 4.8 million of these consumers were being served on the lines of REA borrowers as of June 30, 1960.

Electric loans amounting to $220.1 million were approved during fiscal year 1960, to finance construction of 20,000 miles of line and related facilities and provide initial electric service to 105,800 additional rural consumers. Five out of six of these new consumers are nonfarm. This is one indication of the extent to which suburbs and rural industry are pushing into the farmland areas served by rural electric cooperatives.

Another significant trend in rural electrification is the continued increase in the amount of power consumed per farm. The average monthly consumption on lines of REA borrowers reached 345 kilowatt-hours in 1959, almost twice the average consumption in 1952. This has required rural systems to increase the load capacity of distribution lines. Because of the growing demand for electric power in rural areas, a higher percentage of REA loans goes into generating and transmission facilities. During fiscal 1960, $89 million—more than 40 percent of all electric loans—went for these purposes. These funds will provide additional generating capacity of nearly 290,000 kilowatts, bringing the total generating capacity furnished through REA financing to more than 2.4 million kilowatts. The largest single loan ever made by REA was approved during fiscal 1960, for a locally

owned, nonprofit, generating and transmission system in the rural counties of southern Illinois.

Four new electric borrowers were added during the year, bringing to 989 the number of active cooperatives and other rural systems in the program.

By June 30, 1960, REA electric borrowers had made payments of close to $1.3 billion to the Federal Government. This included $714.3 million repaid on principal, $422 million paid in interest, and a balance of $160.3 million paid in advance of due date as a cushion of credit. Only one REA electric borrower was behind in payments at the end of the fiscal year. Debt service payments by electric borrowers during fiscal 1960 amounted to $149.2 million.

REA encourages its borrowers to develop internal strength and self-reliance, and borrowers show gratifying gains in their financial position and stability. Average net worth of electric borrowers has climbed to 18.1 percent of assets.

For those borrowers with general funds not needed for current operations, REA announced on June 30, 1960, a new series of Treasury bonds bearing 2 percent interest per annum. These bonds offer borrowers another alternative solution to the often thorny problem of how to invest general funds. This opportunity should help offset criticism that REA's 2 percent loan money is enabling some borrowers to invest surplus funds at a profit. Borrowers concerned about this criticism had been asking REA for some arrangement which would permit them to send general funds to the Government and receive the same rate of interest that they pay on their REA loans. An important feature of the REA bonds is that, although they carry a 12-year maturity, they may be redeemed at any time upon 30 days' notice. This keeps the money available as a reserve fund for emergencies.

Telephone Program

If telephones are important to people in the cities, how vital they must be in rural areas where the distances are great! Farming is a business, and as such is just as dependent upon good telephone service as any commercial enterprise in the city.

Telephone service is communication—people talking to people.

> In human terms, REA's rural telephone program means a midnight call to a doctor for a fevered child.
>
> It brings the voice of an Army sergeant in Europe to his wife in the States.
>
> Off the Louisiana coast, the captain of a fishing boat gets orders by radiotelephone through a rural exchange on shore.
>
> A farmer in Oregon saves 20 miles of driving by telephoning a repair shop in town for a new tractor part.
>
> Johnny calls his home from a consolidated school to tell his mother not to meet the school bus because he is staying for basketball practice and has a ride home later.

Modern dial telephone service brings people together, connects the farm family with the markets and social activities of the county seat town, provides safety and security in emergencies.

On October 28, 1959, REA took note of the 10th anniversary of its telephone program. By the end of the fiscal year more than a million subscribers were using modern dial telephone service provided by REA-financed facilities.

Out of total loans amounting to $679 million, REA had advanced $501 million for borrowers to complete 219,000 miles of line and 2,421 new dial exchanges. During the fiscal year, REA made telephone loans amounting to $105 million, a new high. These included loans to 47 new borrowers, bringing the number of REA-financed telephone systems to 494 companies and 211 cooperatives. Loans made in fiscal 1960 will finance construction of 33,000 miles of line and modern dial exchanges to serve 181,000 more subscribers.

About 65 percent of our farms now have telephone service, and an increasing percentage of it is modern dial.

On their indebtedness to REA, telephone borrowers have paid $17.5 million of principal, $15.3 million in interest, and almost $3.5 million in additional payments ahead of schedule. Total payments of $14 million were made by telephone borrowers on their debt service during fiscal 1960. Twelve telephone borrowers were in arrears on their debt payments at the end of the fiscal year.

Despite the relatively high cost per subscriber of providing adequate telephone service in rural areas, REA engineers and management specialists, working closely with various segments of the telephone industry, are finding ways to improve and expand service in rural areas on a financially feasible basis.

Highlights of REA Progress, 1952–60

REA today runs its two loan programs—electric and telephone—with fewer employees than it used to take to operate one. In fiscal 1949, before the telephone program began, 1,076 man-years were required to operate the rural electrification loan program. In fiscal 1959, we required only 1,018 man-years to run both programs. These reductions in man-years have been accomplished with no loss of efficiency. On the contrary, processing time for loan applications has been reduced up to 50 percent.

Following are some interesting statistical comparisons in the development of REA's two programs:

ELECTRIC PROGRAM

17½ years through 1952		*7½ years through fiscal year 1960*
$2.7 billion	Total loans approved	$1.6 billion.
$505 million	Loans for generation and transmission.	$511 million.
88.1 percent [1]	Percent of U.S. farms with electric service.	97 percent.[4]

3.9 million	Consumers served	0.9 million.
184 kilowatt-hours [2]	Average monthly kilowatt-hours use per farm consumer.	345 kilowatt-hours.[5]
3.40 cents per kilowatt-hours.[2]	Average price of power to farm consumer.	2.61 cents per kilowatt-hours.[5]
$395.3 million	Debt service (principal, interest and advance payments).	$901.4 million.
45 [3]	Number of delinquent borrowers	1.[6]
7.7 percent[3]	Average net worth as percentage of assets.	18.1 percent.[6]

[1] As of June 30, 1952.
[2] Calendar 1952.
[3] As of Dec. 31, 1952.
[4] As of June 30, 1960.
[5] Calendar 1959.
[6] As of Dec. 31, 1959.

TELEPHONE PROGRAM

3 years though 1952		*7½ years through fiscal year 1960*
$106 million	Total loans approved	$573 million.
231	Number of borrowers (net increase).	474.
41.8 percent [1]	Percent of U.S. farms with telephones.	68 percent.[2]
0.3 million	Subscribers to be served	1.1 million.
1,100	Miles of line completed	218,000.
26	New dial exchanges placed in service.	2,400.
$18,444	Debt service (principal, interest, and advance payments).	$36,300,000.

[1] As of 1952.
[2] As of 1960.

WHAT OF THE FUTURE?

The trend toward regimentation, ever-tighter Government controls, and socialization in agriculture has been reversed—but will it *stay* reversed? That is the question—and it is a question of the very deepest significance to all of us in this Nation, and indeed to the entire free world.

The freedoms we hold dear were not cheaply bought nor can they be lightly preserved. Yet there are some today who would ignore the lessons of the past. There are those who would compromise principles by offering hastily contrived panaceas to meet the challenges of our times.

Such opportunists would blindly disregard our basic traditions and would substitute quicksand for the solid rock of America's indomitable spirit of freedom.

If our country, so blessed with opportunity and purpose, is to progress and prosper for the benefit of all, it cannot, it must not, replace integrity with cynicism, principles with catchwords, ideals with doles, and liberty with controls.

Freedoms were not achieved, and they cannot be maintained, by simple shortcuts that attempt to bypass basic eternal truths.

If we would stay free, here, I suggest, are some of the principles we must cling to now and in the years ahead. We must stand firmly—

1. *For* sound money and *against* inflation.
2. *For* economy and conservation and *against* waste.
3. *For* the private-competitive market and *against* Government interference.
4. *For* local self-government and *against* central government intervention.
5. *For* private ownership and *against* Government ownership and control of the means of production and distribution.
6. *For* individual liberty and *against* coercion.
7. *For* national security.

Among those who best understand these principles today are America's men and women of the soil.

I am convinced that the future of our competitive enterprise system rests largely in the capable hands of our farm families. American agriculture is truly an owner-managed industry whose millions of executives made their own individual decisions.

Whether we in this Nation keep our freedom—the freedom to choose where we will go and how we will earn a living, what we will do with our savings and how we will spend our leisure—may depend to a significant degree on how our Government in the years ahead approaches the farm problem.

The fundamental economics of the farm dilemma is simple—it is the politics of the problem that is baffling. What farmers want and need is less Government in the farming business—less politics in agriculture.

Here in broad outline is what we need to do.

First, we need to expand the "Food for Peace" program. Remarkable use has been made of our surplus stocks through special export programs, but there are additional steps that can be taken. Food can serve humanitarian needs in foreign lands, aid in economic development, and promote the cause of peace and freedom.

Second, we should press forward even more vigorously than at present with programs of research to develop new foreign and domestic markets, including new industrial uses, for our farm products.

Third, we need laws to improve the price support mechanism by providing levels of price support that will allow farm commodities to move into regular marketing channels, and at the same time afford adequate price protection. This will open the way toward further relaxation of existing controls over farm production, and toward an agriculture that is on a free, sound, and profitable basis.

Fourth, we need to adjust further the use of farmland in accordance with needs by such a program as an expanded Conservation Reserve.

Fifth, the Rural Development Program should be emphasized and expanded as rapidly as is feasible. Through private and public cooperation, we can improve vocational education, offer more effective employment services, and encourage local industrialization and other economic activities as well as better farming. We can help our small farmers make adjustments which they want and need to make to improve their standard of living.

These are the policies American agriculture needs:

Policies that build farm markets—

Policies that permit dynamic adjustments to the rapidly changing science of agriculture—

Policies that will strengthen our family farms as sound economic units—

Policies which will always dignify the individual farmer and his family in the free atmosphere of a vigorous and prosperous America.

We are in a cold war with communism. In this conflict, our agriculture is one of our greatest assets. The productivity of our farmers outclasses that of Russian farmers, four or five to one. This is a *tremendous* asset. The underdeveloped nations need our agricultural science and our food. Let us continue to put this advantage to work.

If we resolutely advance along the lines I have indicated, the most exciting decade of our entire experience can lie just ahead of us. The future is filled with absorbing challenges.

We have here in the U.S. the most advanced agricultural plant in all history—the most skillful, best-equipped farmers in the world—the finest, most abundant food supply ever. For the first time in history we dare to think about overcoming, around the world, man's ancient enemy, hunger.

I cannot begin to express my admiration for the people of this land as they have revealed themselves to me during these 8 years. It has been a priceless privilege to meet so many thousands upon thousands of my fellow Americans from every section of the country, from every State in the Union. It has been a tremendous inspiration to rub shoulders with people from every walk of life, rich and poor, the highly educated and some with very little schooling, men, women, and children of all races, all creeds, all nationalities. Wherever I have gone, I have seen in all these varied personalities some fundamental qualities which have made this the choicest land on God's earth.

Our people belive in initiative, self-reliance, personal responsibility. They have the highest standard of living in the world, and they want to raise it even higher—but by the fruit of their own enterprise, not by government planning.

They have an undying determination to be free and to stay free.

Wherever I have spoken of these things, their response has been immediate and heart-warming. Deep inside, our people know that our abundant blessings have come to us through an economic system which rests largely on three pillars:

1. Free enterprise—the right to venture—to choose.
2. Private property—the right to own.
3. A market economy—the right to exchange.

We must preserve this system. It is the source of the initiative, vitality, energy, and resourcefulness of our people.

It is my hope and my prayer that the people of this choice Nation will never permit this land to fall prey to a mammoth, centralized paternalistic government on the pretext that such a government can by decree create and dispense health, wealth, and happiness to a subservient people.

Our country was founded on belief in the sovereignty of God and the dignity and rights of man. The marvelous economic productivity of our system is essentially a byproduct of these strong beliefs.

Freedom is still the most revolutionary concept on the face of the earth.

In the last analysis, the contest between our system and the Communist system is not merely economic, it is also ideological and spiritual. Let us remember that—for if we cling fast to that basic truth, we can, and we shall, win.

God grant it may be so.

U.S. GOVERNMENT PRINTING OFFICE: 1960